THE

CONTRACT JOURNAL

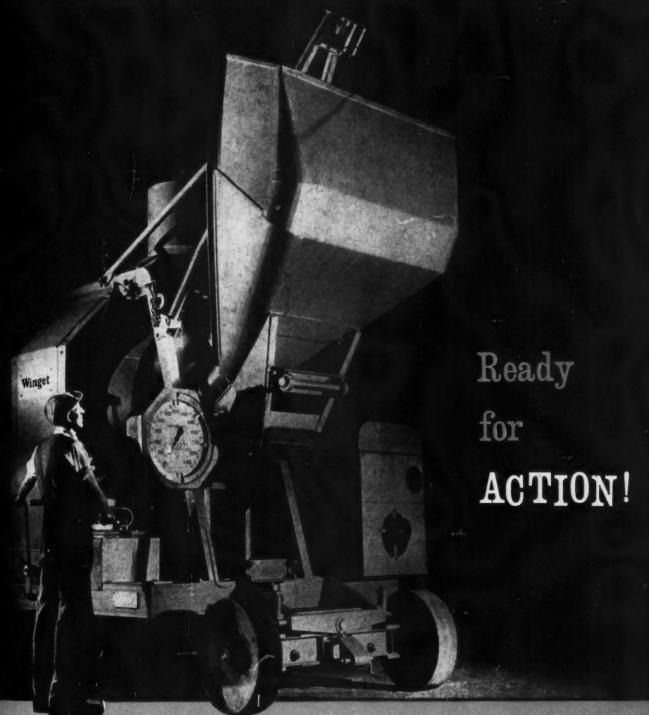
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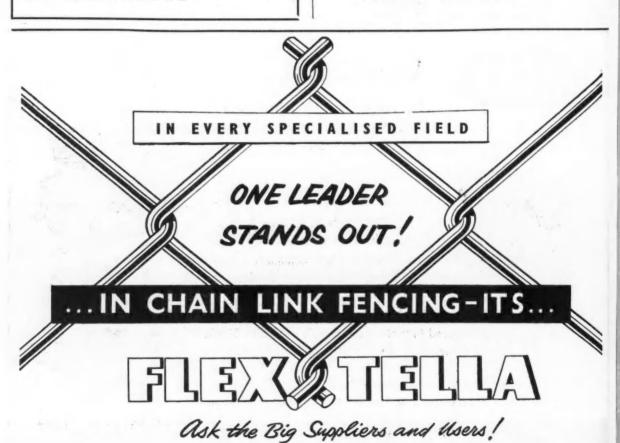
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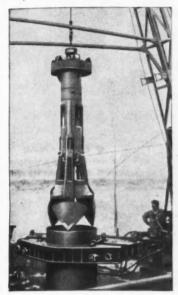
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					of Grabs approx.	Hooking crown	O.D.	I.D.
E-32-2	148"	173*	3	-	1720lbs."	187 lbs.	164°	15%
	16%	2011		-	1764lbs.		181"	178"
	20%	251		181"	1841 lbs.		221	211
	241	291"		218	1962 lbs.		26"	241
E-43+2	281"	331	3	248"	2866lbs.	243 lbs.	301°	291"
	3814	431"		321"	3307lbs.		391"	381"
	471	59"		431"	4410lbs.		50"	48"



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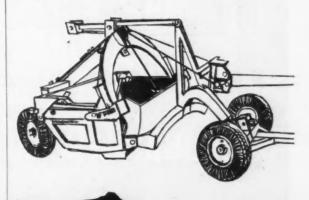
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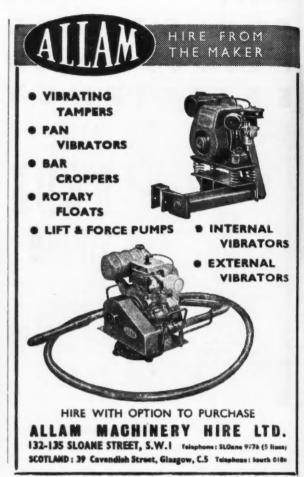
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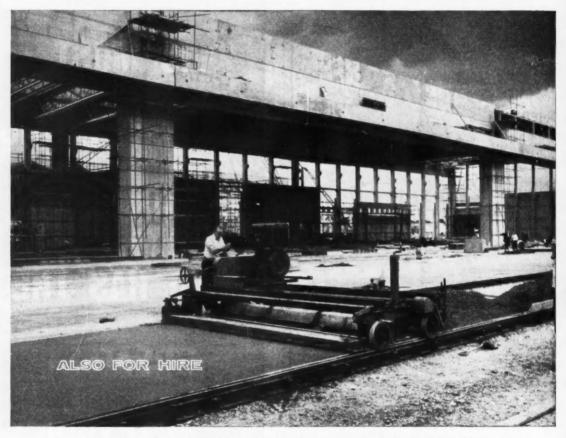
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This photograph of a Concrete Finisher was taken by the courtesy of Messrs. Holland & Hannen and Cubitts (Great Britain) Limited, at the B.E.A. Engineering Base, London Airport. The outstanding feature of this machine is its versatility. Its frame is adjustable from 4ft. to 16ft. and it can be used for one or two layer construction, also for the vibration of the sub-base. The Finisher at London Airport compacts the 15ft. wide slabs of the apron, also the 12ft. slabs of the hangar floors and with an extra pass, the granolithic layer in the hangar. The machine is fitted with a cutting blade and it cuts all the joints in the freshly placed and compacted concrete. In spite of its light weight the machine achieves perfect compaction of the 10in. thick slabs and the surface is well within the specified tolerance of 1 in. in 10ft. The Finisher is powered by a 7.5 H.P. Diesel Engine and can run on forms, on rails, on the finished concrete on pre-laid kerbs. This inexpensive machine is manufactured by the S.G.M.E. of Belgium and the Sole Agents will be very pleased to give full details.

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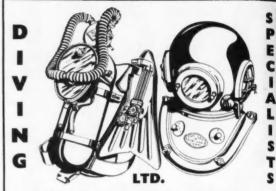
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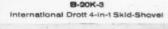
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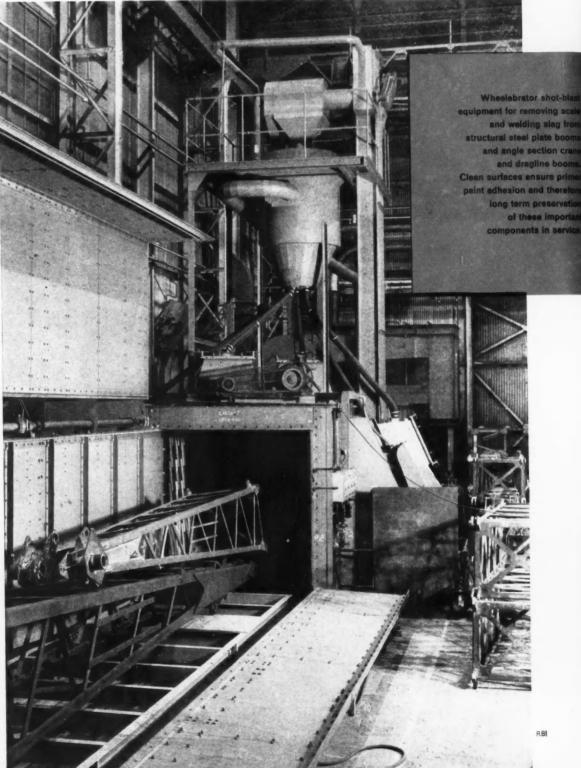
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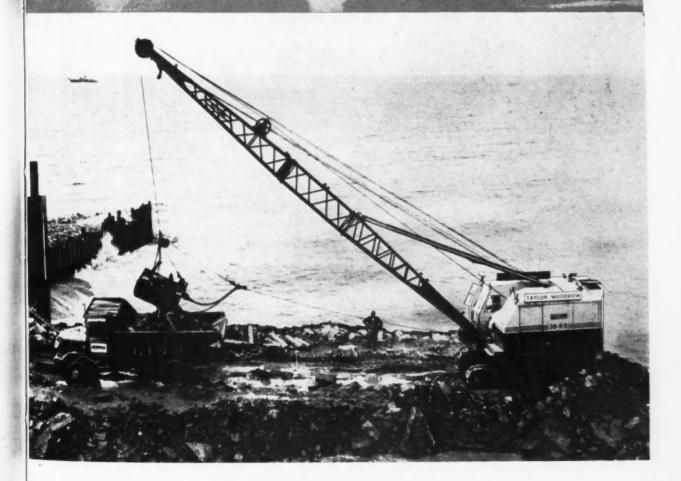
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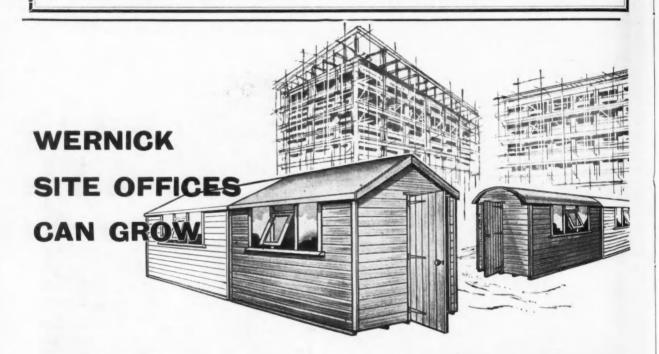
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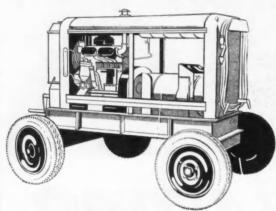
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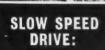
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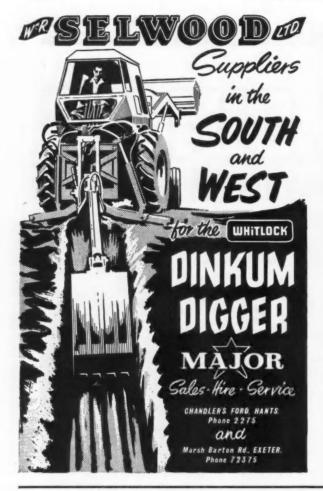


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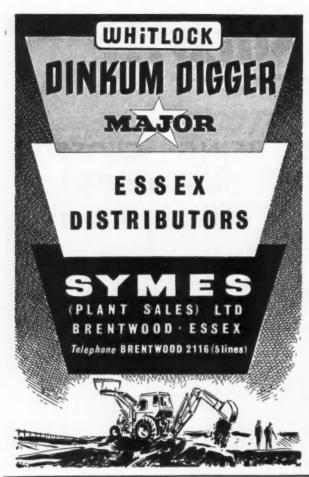
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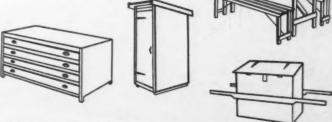
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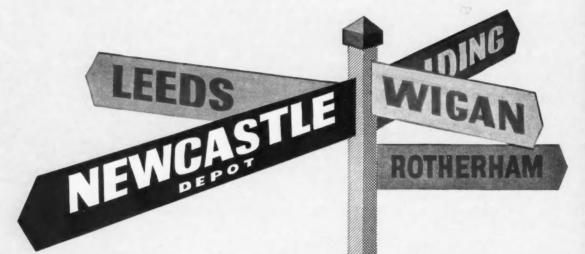
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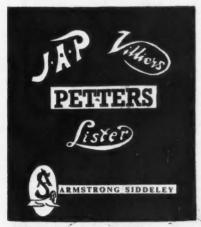
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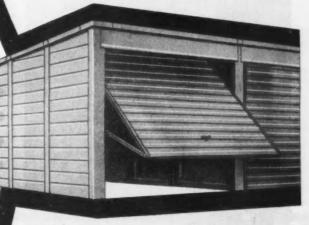
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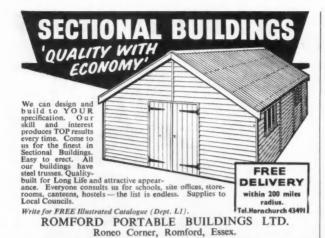


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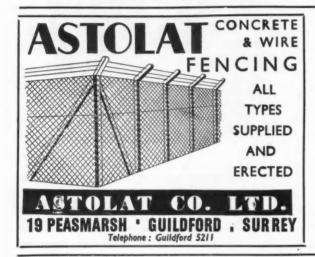
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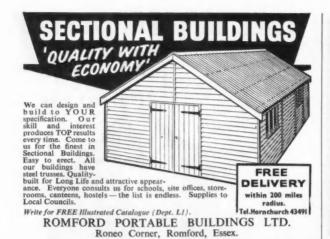
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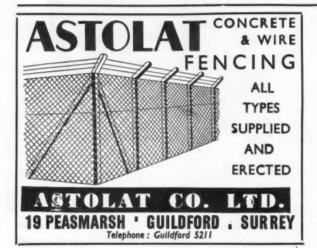
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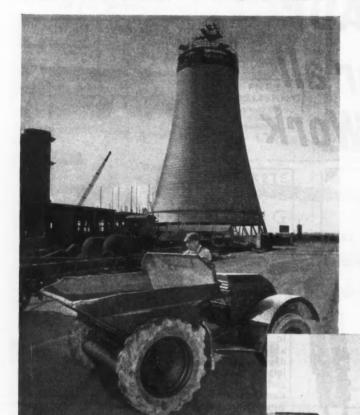
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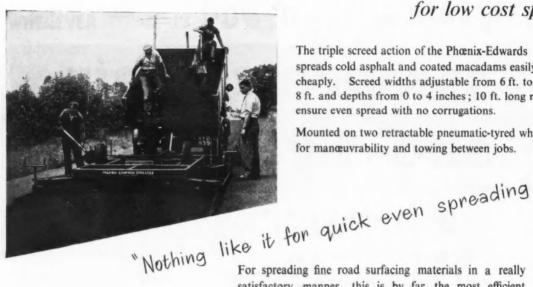
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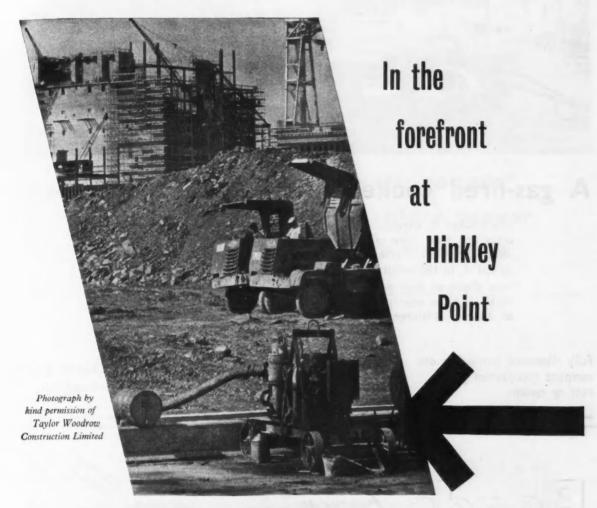
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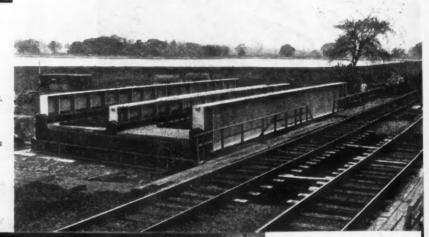
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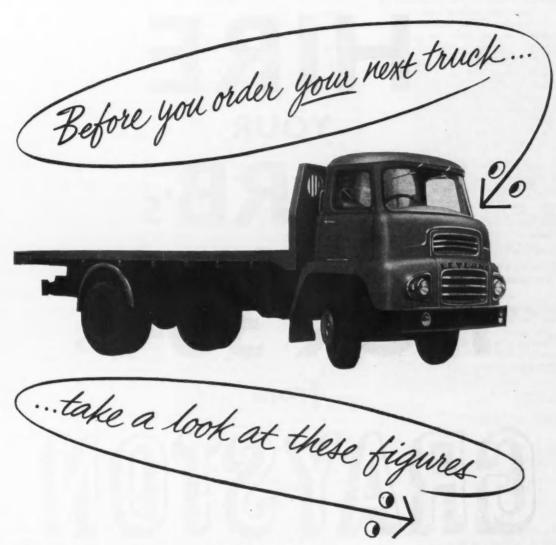


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LONDON OFFICE: DORLAND HOUSE · REGENT STREET · LONDON, S.W.1 · TELEPHONE: WHITEHALL 3993:

Telegrams: Bromkirk 'Phone London, Telex: 23320

BRAITHWAITE & CO. STRUCTURAL LIMITED . BRAITHWAITE FOUNDATIONS & CONSTRUCTION LIMITED



Incredible, but true. After completing 300,000 miles on both quarry and long distance haulage, carrying a 7-8 ton payload, this operator's Leyland Comet was still averaging 18 m.p.g.

During that time, the only attention given to the engine was re-ringing with standard rings at 150,000 miles. Lubricating oil was changed every 3,000 miles and filters at 6,000.

After such a remarkable performance, it was only natural that when the operator placed his next order, he looked no further than the Comet. And, good as those figures for that earlier model were, it's our guess that the new CS₃ Comet will beat them easily. It can do the same for you.

"AT 300,000 MILES, OUR
COMET WAS STILL
GIVING 18 M.P.G.
ONLY ATTENTION
NEEDED—
NEW RINGS AT

150,000 MILES"

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22 RB's

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GRAYSTON

A LARGE FLEET OF

STANDARD AND LONG AND WIDE TRACK MODELS
ALL MACHINES FULLY RIGGED AS CRANES, WITH
MAXIMUM JIB LENGTHS

MANY BRAND NEW MACHINES FITTED WITH POWER LOAD LOWERING

FULL RANGE OF OTHER EQUIPMENTS AVAILABLE

MACAULAY 6688 (10 LINES)

COUNTY BOROUGH OF BURTON-UPON-

FERRY STREET HOUSING SITE—ROADS AND SEWERS CONTRACT.

The Corporation invite TENDERS for the CON-STRUCTION of ROADS and SEWERS on the ABOVE-MENTIONED SITE. The Works comprise the Construction of approx. 5.300 sq. yd. of Carriageways, together with Paving and Improvement Works to Existing Junctions; also 15lin, 12ln., 19ln. and 6ln. dia. Sewers with 10 Concrete Manholes and ancillary

Existing with 10 Concrete mentions, with 10 Concrete mentions, conditions and Several Morks, of Tender, Bills of Quantities, Conditions and Specification may be obtained, and the Plans Inspected, on application to the Borough Surveyor, Town Hall, Burton-upon-Trent.

Tenders and documents, in the envelopes provided, Tenders and documents in the undersigned not later than

on application to the Burough authority of the Burton-upon-Trent.

Tenders and documents, in the envelopes provided, should be delivered to the undersigned not later than 5 p.m. an TUESDAY, 12th April, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

H. T. MEADES,

H. T. MEADES, Town Clerk.

Town Hall, Burton-upon-Trent. 17th March, 1960.

METROPOLITAN BOROUGH OF

TENDERS are invited from painting contractors for CERTAIN REDECORATION WORKS TO COUNCIL ESTABLISHMENTS.
Specification. Conditions of Contract and full particulars may be returned from the Borough Engineer.
Fenders, when completed, must be returned to the ToWN CLERK, in the envelope provided, not later than 4 p.m. on MONDAY, 9th May, 1960.

The Council reserves the right to allocate sections of work to two or more contractors, who must be prepared to carry out the work at the prices tendered.

BOROUGH OF BILSTON.

RESURFACING OF HIGH STREET, MOXLEY (A.41), AND MILLFIELDS ROAD (A.4039).

AND MILLFIELDS ROAD (A.4039).

TENDERS are invited for HEATING, PLANING and SCARIFYING of EXISTING SURFACE MATERIAL and LAYING of approx. 9,500 sq. yd. of HOT-ROLLED ASPHALT.

Drawings may be inspected at the office of the Borough Surveyor, Municipal Buildings, Hall Street, obtained upon payment of a deposit of Two Guineas, which sum will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed Contract No. 240-Micsorface of the Guineas, and the Contract No. 240-Micsorface of the Undersigned not later than 12 Noon on WEDNESDAY, the 13th April, 1960.

The lowest or any Tender will not be necessarily accepted.

A. M. WILLIAMS, Town Clerk.

Town Hall.
Bilston.
Staffs.
March. 1960.

TITY OF CAMBRIDGE.

ADOOR SWIMMING POOL.
CAMBRIDGE.

DONKEY'S COMMON, CAMBRIDGE.

The City Council proposes to APPOINT a GENERAL CONTRACTOR by SELECTIVE TENDERING and invites suitable building firms to submit their names for selected and invited to TENDER. Before final selection is made, all applicants will be asked to supply details of their organisations and experience.

The Code of Procedure for Selective Tendering of the N.J.C. of Architects, Quantity Surveyors and Bullers will be asked to supply the N.J.C. of Architects, Quantity Surveyors and Bullers will be asked to supply the N.J.C. of Architects, Quantity Surveyors and Bullers will be asked to supply the N.J.C. of Architects, Quantity Surveyors and Bullers will be asked to supply the N.J.C. of Architects, Quantity Surveyors and Bullers will be asked to supply the N.J.C. of Architects, Containing two pools (110ft x 42ft. x 12ft. 6 in deep and 36ft. x 20ft. x 3ft. deep); Public Callery, seating 700 persons; Cafe and Kitchen; and Basement for Plant. (2) Main Entrance Hall and Basement for Plant. (3) Detached House for Pool Supply Surveys Include the Construction of Bourts. Site Works Include the Construction of Bourts.

about 9,000 sq. ft. (3) Detached House for Pool Superintendent.

Stre Works Include the Construction of Roads, Paths, Car Park, Fencing, Drainage, etc. exactions and The Contract involves considerable Excavations and Reinforced Water Retaining Concrete, see Mass and Reinforced Water Retaining Glazed Curtain Wall Claddings and a Variety of Internal Fittings and Finishes, together with Engineering Services

Documents will be issued on the 8th June, and

Services.

Documents will be issued on the 8th June, and Documents will be issued on the 8th June, and Tenders (on Fixed and Fluctuating Basis) must be submitted not later than the 7th July. It is expected that work will begin on site by the end of September, 1960, and the Contract period will not exceed two

years.

Applications for inclusion on the first list should be made to the City Surveyor, The Guildhall, Cambridge, not later than 10 a.m. on MONDAY, the 4th April, 19 the Council does not bind itself to accept any Tender.

A. H. I. SWIFT, Town Clerk.

BUILTH AND DISTRICT WATER BOARD. WORKS OF WATER SUPPLY.

STAGE THREE

TENDERS are invited for the CONSTRUCTION of about \$4,000 lin. yd. of SPUN-IRON WATER MAINS. SINCE STATE OF THE STATE OF TH

D. LLEWELYN THOMAS, Clerk of the Builth and District Water Board.

Wyeside, 13 Castle Street, Builth Wells, Breckonshire, 10th March, 1960.

CONTRACTS

MERIONETH COUNTY COUNCIL. GLOUCESTERSHIRE COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

FISHGUARD-BANGOR TRUNK ROAD, A.487.

FISHGUARD-BANGOR TRUNK ROAD, A.487. TENDERS are invited for the CONSTRUCTION of new THREE-SPAN SKEW BRIDGE to carry the runk Road over the AFON DWYRYD at Maentwrog. The work includes the Construction of Concrete buttments and Flers, parity masonry faced, together control of the control of t

COUNTY BOROUGH OF DONCASTER.

PROPOSED BRIDGE OVER THE RIVER DON.

CONTRACT NO. 54. TENDERS are invited for the DESIGN, SUPPLY and ERECTION of PRECAST COMCRETE BEAMS, which make up the ABOVE BRIDGE. The Beams are to be simply supported on 100ft, centres and are to he simply supported on 100ft, centres and are to he simply supported on 100ft, centres and are to he simply supported on 15tf. 6in. and 13ft. 6in. Form of Tender, Specification and Bills of Quantities may be obtained on the payment of a deposit of £2 2s., returnable on the receipt of a bona-fide Tender from the Borough Surveyor, 2 Priory Place, Doncaster. Sealed Tenders, endorsed "Supply and Erection of Precast Concrete Beams," to be delivered to the 20th April, 1960.

The Cquncil does not bind Isself to accept the lowest or any Tender.

H. R. WORMALD.

H. R. WORMALD, Town Clerk

OF CROSBY. BOROUGH

CHAFFERS PLAYING FIELDS.

TENDERS are Invited for the SUPPLY of MATERIALS and CONSTRUCTION of a 440yd. RUNNING TRACK, together with Various ancillary works, comprising the Supply and Erection of 360yd. If Wought-iron Feecing and the Levelling and Seeding of Mought-iron Feecing and the Levelling and Seeding Copies of Seedifaction. Bill of Quantities and Form of Tender may be obtained on application to the Borough Engineer and Surveyor at the address below an payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. Drawings of the Work may be inspected at the Borough Engineer's Office.

Sealed Tenders, marked "Chaffers Playing Fields—Sealed Tenders, marked "Chaffers Playing Fields—Sealed Tenders, marked" the Will be of the undersigned not light the species of the work of the work of the Chaffers Playing Fields—Sealed Tenders, marked "Chaffers Playing Fields—Sealed Tenders, marked" the William State of the undersigned not light the species of the caref the Theorem Sealed Tenders of the Chaffers Playing Fields—Sealed Tenders, marked "Chaffers Playing Fields—Sealed Tenders, marked" the Sealed Tenders of the University of the Chaffers Playing Fields—Sealed Tenders, marked "Chaffers Playing Fields—Tenders of the Mount of the Sealed Tenders of the Mount of the Seale

not later than moon on the property of the Council do not bind themselves to accept the lowest or any Tender. HAROLD O. ROBERTS, Town Hall.

BOROUGH OF MOSSLEY. TAR SPRAYING OF DISTRICT ROADS.

TENDERS are invited for the TAR SPRAYING of prox. 10,000 sq. yd. of CARRIAGEWAYS within

TENDERS are living to approx. 10,000 sq. yd. of CARRIAGEWATS with the Borough.
Copies of the Specification, Conditions of Contract and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Mossley, near Manchester. Tenders, in plain sealed envelopes endorsed "Tar Spraying," must be delivered to the undersigned not later than THURSDAY, the 21st April, 1960.
The Corporation does not bind itself to attest the lowest or any Tender.

V. C. PROCTER,
Town Clerk.

V. C. PROCTER, Town Clerk. 38 Manchester Road, Mossley,

URBAN DISTRICT COUNCIL OF

PROPOSED SEWERAGE SCHEME-

The Council Invite TENDERS, on a FIXED-PRICE BASIS, for the CONSTRUCTION of the ABOVE SEWERAGE SCHEME, consisting of approx. 6,750 lin. and 91n. dia. Sewers, together with approx. of the construction of the

90 PRECAST CONCRETE MANHOLES and anciliary Works.
Copies of the Specification, Bills of Quantities and Forms of Tender may be obtained from the Surveyor forms of Tender may be obtained from the Surveyor deposit of the sum of \$2.3 s.mc.es. Biddulph, upon deposit of the sum of \$2.3 s.mc.es. Biddulph, upon deposit of the sum of \$2.3 s.mc.es. Biddulph, upon deposit of the sum of \$2.3 s.mc.es. Biddulph sup of the Biddulph upon politrict Council), which sum with be refunded upon receipt of a bona-fide Tender not subsequently withdrawn. The General Conditions of Concact and the Drawings may be inspected at the Offices and the Drawings may be inspected at the Offices and the Drawings may be inspected at the Offices and the Drawings may be inspected at the Offices of the Undersigned in a plain sealed envelope, bearing no mark or indication of the name of the sender, but endorsed "Tender for Biddulph Moor Sewerage," by not later than First Post Offices, Council Offices, ROBERT W. TRACE.

Council Offices, Biddulph Concact and themselves to accept the Biddulph Offices,

Council Offices,

QUEENSBURY AND SHELF URBAN

NEW SEWER—SHIBDEN HEAD LANE, QUEENSBURY.

TENDERS are invited for the CONSTRUCTION or approx. 86yd. of 9in. dia. SEWER, etc. for of render of the construction and several construction of the construction of t

Council Offices, Queensbury, Bradford. 23rd March, 1960.

CONTRACTS

FILTON BY-PASS SUBSTITUTE.

ABLETON LANE DIVERSION.

are invited for the FOLLOWING

TENDERS are invited for the FOLLOWING CONTRACTS:

(1) Fill By-pass Substitute. — The works, with the situated between Almondsbury and Cribbs Causeway, Henbury, near Bristol, consist of Drainage, Earthworks, Construction of 3¹2 miles of dual 24ft, wide Carriageways, Hard Shoulders, Footpaths, Fencing, anciliary works, and the Reconstruction of one Railway Bridge, Completion of the Completion of the Railway Bridge, Completion (2) Ableton Lane Diversion.—The works, which are situated between Severn Beach and Severn Road, Chittening, Bristol, consist of Drainage, Earthworks, Construction of 1²2 miles of Single 24ft. Carriageway, Footpaths, tion of a 280ft. long Concrete Viaduct with Prestressed Beams. Contractors may submit alternative designs and tender for the Viaduct. Latest date for completion. 29th Contractors may tender for each scheme separately, or for carrying out both schemes, and tender documents will be available on the 4th APRIL. 1960, and can be obtained from the County Surveyor, Quay Street, Gloucester, on payment of a deposit of £50 made payable to the Gloucestershire County Council Tender, not subsequently withdrawn.

Tenders, in plain sealed envelopes, endorsed "Filton By-pass Substitute/Ableton Lane," must be received by the County Surveyor, Quay Street, Governments of the County Surveyor. Quay Street, Ground ones not bind itself to accept the lowest or any Tender.

16th March, 1960. Clerk of the County Council.

BOROUGH OF KEIGHLEY.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

LAYCOCK SEWERAGE.

TENDERS are invited for the CONSTRUCTION of approx. 1,9904 of CONCRETE and GLAZED WARE SEWER, varying from 9in. to 24in. dia., together with Manholes. The second of the s

Plans may be inspected at the owner provided, must be feelivered to the undersigned not later than 10 a.m., THURSDAY, 7th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. W. SMITH,

H. W. SMITH, Town Clerk. Town Hall, Keighley, Yorks

STOKE - ON - TRENT. OF

HIGHWAYS ACT, 1959.

HIGHWAYS ACT. 1959.

(A) WEST CRESCENT, SNEYD GREEN: EAST CRESCENT, SNEYD GREEN: EMERY AVENUE, SNEYD GREEN: EMERY AVENUE, SNEYD GREEN: TO SUBJECT OF STATE O

NEW RADNOR RURAL

FRANKSBRIDGE WATER SUPPLY.

FRANKSBRIDGE WATER SUPPLY.

TENDERS are invited for CARRYING OUT the ABOVE WORKS, comprising:—

(a) intake Chamber, 350vd, 9in. dia. Drive Water Main, 600vd. 2in. and 3in. dia. Asbestos-Cement Water Main, and 1,100 lin. vd. 12in. 11ain. and 1in. dia. Polythene Drive Marchael Competence of the Competence of the Clerk of the Competence of the Competence

2 Mill Street, Kington, Herefordshire, March, 1960.

SUPPLEMENT CONTRACTS

ROYAL COUNTY OF BERKSHIRE. HIGHWAYS ACT, 1959-PART IX.

PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP WOOD-LANDS RIDE, Sunninghill. The Works comprised in this Contract are as

The Works comprised in this Contract are as follows:—

Approx. 2,000 sq. yd. of Hardcore and Bituminous Macadam Carriageway, 1,250 sq. yd. of Bituminous Macadam and Asphalt Footways, 700 lin. yd. of Kerbing, 250 lin. yd. or Highway Drain, and incidental Works.

Drawings may be inspected at, and Specification, Bill of Quantities and Form of Tender obtained from, the office of the County Surveyor, Shire Hall, Reading, on payment of a deposit of \$2.2.

The deposit will be refunded on receipt of a bonafide Tender, in envelope provided, must be returned Tenders, in envelope provided, must be returned

ers, in envelope provided, must be returned later than 12 Noon on FRIDAY, 8th April, Tenders, in envelope provinced, must be stated by not later than 12 Noon on FRIDAY, 8th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

B O R O U G H OF MIDDLETON. ASPHALT SURFACING.

ASPHALT SURFACING.

TENDERS are invited for SUPPLYING and LAYING 1 in. SINGLE-COURSE HOT-ROLLED ASPHALT by MECHANICAL SPREADER, together with Remedial Welchanical Spreaders, together with Remedial Welchanical Spreaders, together with Regulating Course on the FOLLOWING ROADS, 1880 sq. yd. Hitton Fold Lane—approx. 1,380 sq. yd. Hitton Fold Lane—approx. 1,380 sq. yd. Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer, Town Hall, Middleton, on the Borough Engineer, Town Hall, Middleton, on the Course of Cou

signed not later than Noon on THURSDAY, 14th April, 1960.
The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON, Town Clerk.

Town Hall, Middleton, Near Manchester. March, 1960.

CHISLEHURST AND SIDCUP URBAN

NORTHCOTE ROAD HOUSING SITE

Names and addresses of contractors desirous of TENDERING for CONSTRUCTION of 4,100 sq. vd. of CONCRETE ROADS and 800 lin. vd. of 9ln. SEWERS to Engineer and Surveyor, Manor House, Sidcup, Kent, with Two Guineas deposit, before 9th APRIL, 1960.

T. W. FAGG,
Clerk of the Council.

Sidcup Place, Sidcup,

NEWTON ABBOT URBAN DISTRICT

SURVEYOR'S DEPARTMENT.

PROPOSED EXTENSION AND COMPLETION OF BRUNEL ROAD. Contractors are invited to submit TENDERS for the ABOVE WORKS, which will comprise the Construction of approx. 150 lin. vd. of New Carriage way comprising a Pitched Foundation with Bituminous Macadam Surfacing, Footpaths, Foul and Surface Water Sewers and Manholes, Street Lighting, and antillary works.

Macadam Surfacing, Footpaths, Foul and Surface Water Sewers and Manholes, Street Lighting, and ancillary works.

Applications in writing, enclosing a deposit of £2 2s., by crossed cheque made payable to the Newton Abbot Urban District Council, should be sent to the Surveyor, MR. CYRIL LUNN, 18 Devon Square, Newton Abbot, not later than 10 a.m. on SATURDAY, St. ASPECIFICATION, BILLS of Quantitles and Tender details will then be forwarded.

The Council does not bind itself to accept the lowest or any Tender, and firms who tender must do so at their DWM expense.

The deposit will be returned on receipt of a bona-fide Tender.

D. EVANS,

D. EVANS, Clerk of the Council.

Town Hall, Courtenay Street, Newton Abbot

URBAN DISTRICT COUNCIL OF MARPLE.

TENDERS are invited for FOOTPATH and CARRIAGEWAY IMPROVEMENT WORKS in the URBAN DISTRICT, consisting of Kerbing, Flagging, Bituminous Macadam and ancillary Works. Specifications, Bill of Quantities and Form of Tender may be obtained from, and General Conditions of Contract inspected at the Surveyor's Office, Council Offices, Marple, on payment of a deposit of £2, which sum would be refunded on receipt of a bona-fide Tender and the return of all documents. Tenders, in plain sealed envelopes endorsed terms of the contract of the contract

L. GREENALL, Clerk of the Council.

Council Offices, Marple, Cheshire, March, 1960.

BATHAVON RURAL DISTRICT COUNCIL. ERECTION OF SIX HOUSES, FAIRY HILL,

TENDERS are invited for the ERECTION of ONE BLOCK of SIX HOUSES on the COUNCIL'S HOUSING SITE at Compton Dando.
Applications for Tender documents should be made Applications for Tender Day. She house the Council's Architect, P. KENNEREL POPE Est. A.R.W.A., A.R.I.B.A., 18 Brock Street, Bath, accompanied by a deposit of Two Guineas (by cheque payable to Bathavon R.D.C.), which will be refunded on receipt of a bona-fide Tender and the return of the Tender documents. Architect will advise contractors of the latest date for receipt of Tenders.
The Council does not bind itself to accept the lowest or any Tender.
S. G. FOXTON PRICE,
Clerk of the Council.

Council Offices, Westgate Buildings, Bath. 21st March, 1960.

CONTRACTS

BOROUGH OF ROMFORD. RESURFACING-BROXHILL ROAD, HAVERING.

RESURFACING—BROXHILL ROAD, HAVERING.

TENDERS are invited for the RESURFACING of approx. 950 lin. yd. of BROXHILL ROAD, Eastwards from its Junction with Havering Road North. Provision of approx. 1,900 lin. yd. of Concrete Marginal Strip. 4,600 sq. yd. of Carriageway Surfacing with Bituminous Wearing Course, together with Regulating Course, and various other ancillary Works. Conditions of Contract may be seen and Forms of Contract of the Borough Engineer and Surveyor, Town Hall, Romond, Will be returned on receipt of a bona-fide Tender.

Tenders must be submitted on the form provided to together with Bills of Quantities, delivered in MONDAY, 11th April, 1960.

MONDAY, 11th April, 1960.

Town Hall, Town Clerk.

OF PLYMOUTH HIGHWAYS ACT, 1959.

TENDERS are invited for the MAKING-UP of GLENHOLT ROAD and HOLTWOOD ROAD. The work

GLENHOLT ROAD and HOLTWOOD ROAD. The work involves:

(i) The Laying of 1,500 lin. yd. approx. of Gin., 9in. and 12in. dia. Stormwater Sewers, and also Manholes.

(ii) The Making-up of 8,400 sq. yd. approx. of Carriageway with Granular Base and Asphalt Surfacing, and the Laying of 2,640 lin. yd.

(iii) The Making-up of 3,200 sq. yd. approx. of Tarmacadam Footpath.

(iv) Incidental and ancillary work.

Drawings may be inspected at, and copies of the Specification and Bills of Quantities and Tender Form obtained from, the undersigned, on payment of a deposit of the specification and Bills of Quantities and Tender Form obtained from, the undersigned, on payment of a deposit of the specification and Bills of Quantities and Tender Form obtained from, the undersigned, on payment of a deposit of the specification and Bills of Quantities and Tender Form of the State of the

J. ACKROYD, City Engineer and Surveyor.

The Guildhall, Plymouth. 22nd March, 1960.

CORPORATION WATERWORKS. LLANDEGFEDD WATER SCHEME-SECTION " B.

CONTRACT NO. B.3-WATER MAINS.

FIXED-PRICE TENDERS are invited from experi-ced mainlaying contractors for the INSTALLATION WATER MAINS and Construction of Ancillary orks, including the Supply of all materials, as

enced maintarnia of WATER MAINS and Commercial of WATER MAINS and Country of all materials, follows:

44/81/050.—About 3,940 lin. yd. of 42in. dia. Stanton Prestressed Concrete Pipes and about 1,030 lin. yd. of 60in. dia. Stanton Prestressed Concrete Pipes from River Usk Pumping Station to the Llandegfedd Reservoir.

About 1.000 lin. yd. of 36in. dia.

Pumping Station to the Llandegfedd Reservor.

48 1 (970.—About 1,000 lin. yd. of 36in. dia. Steel Pipes from the Sor Pumping Station to the Sluvad Treatment Works at Llandegfedd Reservoir.

48 1 20.—Bout Treatment Works at Liandegfedd Reservoir.

48 1 20.—Bout Steel Concrete Pipes from the Proposed Treatment Works to the Pontypool Connection.

48 1 (130.—About 12,050 lin. yd. of 30in. dia. Stanton Prestressed Concrete Pipes from the Pontypool Connection to the Abertillery Connection in. yd. of 24in. dia. Spun-iron Pipes from Rogerstone to Lianedeyrn, Cardiff.

Spun-iron Pipes from Rogerstone to Lianedeyrn, Cardiff.

Included in these sections are Chambers for Valves, C., Piers for River Crossings, and other ancillary orks.

Lianedeyrn, Cardiff.

Included in these sections are Chambers for Valves, etc.. Piers for River Crossings, and other ancillary works.

Provisional arrangements have been made for the supply of pipes from specified manufacturers.

Provisional arrangements have been made for the supply of pipes from specified manufacturers.

Provisional arrangements have been made for the supply of pipes from specified manufacturers.

Provisional specified manufacturers.

Provisional specified manufacturers.

Conditions of Works, similar in character, carried out by them.

Conditions of Contract, Specification, Drawings, Bills of Quantities and Form of Tender may be obtained after the 7th APRIL. 1960, from the Engineer, at application should be made, accompanied by a deposit of £5 5s. Cheques should be made payable to Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded upon receipt of a bona-fide Tender, or the return of the Contract documents.

On the providents be submitted on the form which with the provided, duly completed and sealed, with the Conditions of Tender, in a small envelope, marked on the outside only with the words "Tender for Llandegfedd Water Scheme—Section 'B, Contract No. B.3, Water Mains." A fully priced Bill Contract No. B.3, Water Mains. Quantities and any documents of the purpose of submitting a Tender, and any Drawings submitted with the Tender, must be sealed up in a separate large envelope marked on the outside only with the name of the firm submitting the Tender.

Both these envelopes must be enclosed in a third selection of the servelope marked on the outside only water Asins." Scheme—Section 'B, Contract No. B.3, Water Mains." Scheme—Section 'B, Contract No. B.3, Water Mains." Scheme—Section of S, Contract No. B.3, Water Mains." A stream of the undersigned and sent by Registered Post so as to be received not later than 16th MAY. 1960.

The Corporation does not bind itself to accept the

addressed to the undersigned and sent by Registered Post so as to be received not later than 16th MAY, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,

City Hall, Cardiff. March, 1960. OF

WORCESTER. CITY ERECTION OF 132 BRICK-BUILT GARAGES ON WARNDON ESTATE AND AT BROMWICH ROAD.

WARNDON ESTATE AND AI BROWN.

TENDERS are invited for the ABOVE. Documents obtainable from City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Two Guineas (cheques payable to "Worcester Corporation"), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents.

Tenders to be posted to the undersigned to arrive not later than TUESDAY, 19th April, 1960.

BERTRAM WEBSTER.

Town Clerk.

CONTRACTS

BOROUGH OF MIDDLETON. ASPHALT SAND CARPET SURFACING.

ASPHALT SAND CARPET SURFACING.

TENDERS are invited for SUPPLYING and LAYING approx. 6,000 sq. vd. of HOT-ROLLED ASPHALT (Skim Cost), suitable for Application to Set Part (Cost), su

F. JOHNSTON, Town Clerk. Town Hall, Middleton, Near Manchester, March, 1960.

BOROUGH OF RICHMOND (SURREY). TO BUILDERS.

The Council invite TENDERS for the ERECTION of

The Council of the Co

Town Hall, Richmond, Surrey. CITY OF WAKEFIELD. PRIVATE STREET WORKS-CONTRACT NO. 21.

TENDERS are invited for the MAKING-UP of the OLLOWING PRIVATE STREETS, together with the ack Streets thereto, comprising Kerbing, Surface fater Drainage and Surfacing to Roads and Footable.

water Drainage and Surfacing to Roads and Paths:

1) Hudswell Street—1,000 sq. yd. (approx.).

(2) Elizabeth Street—1,000 sq. yd. (approx.).

(3) Westerman Street—750 sq. yd. (approx.).

(4) Maybush Road—1,280 sq. yd. (approx.).

F. Singack Streets—2,500 sq. yd. (approx.).

Form of lender and Bill of Quantities may be compared to the undersigned not label and must be returned to the undersigned not label than 12 Noon on WEDNESDAY, 4th May, 1960.

W. S. DES FORGES,

Town Clerk.

Town Hall, Town Clerk. Wakefield. 21st March, 1960. CITY OF WAKEFIELD. LAYING OUT OF PLAYING FIELDS,

TENDERS are invited for the proposed CONSTRUCTION of PLAYING FIELDS as MORBURY ROAD.

TON OF PLAYING FIELDS as MORBURY ROAD.

Bill of Quantitles and Specification obtained, on application to the City Engineer, Town Hall, Wakefield (Room 29).

Tenders, sealed in the official envelope provided, must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 4th May, 1960.

W. S. DES FORGES,
Town Clerk.

Town Hall, Wakefield. 21st March, 1960.

EAST BARNET URBAN DISTRICE CONTRACT NO. 917.

PARK WALK—PROVISION OF CONCRETE TROUGH TO PYMMES BROOK AT NORTHFIELD ROAD.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approx. 55 lin. yd. of HEAVY SECTION CONCRETE CHANNEL, formed in situ. together with incidental works. including Land Drainage and Grading and Seeding of Banks. Forms of Tender, Supplementary Conditions of Contract, Specification and Bills of Quantities may be obtained from the ENGINEER AND SURVEYOR. Town Hall, Station Road, New Barnet, Heritordahler, and the Contract of the Contract of

NEWMARKET RURAL DISTRICT

BURWELL SEWERAGE SCHEME. CONTRACT NO. 2-PUMPING PLANT.

FIXED-PRICE TENDERS are invited from manufacturers for SUPPLYING and ERECTING ELECTRIC CALLY DRIVEN VERTICAL SPINDLE SEWAGE PUMPS for TWO PUMPING STATIONS for the Village of Burweil, in the Newmarket Rural District of Cambridgeshire, including Motors, Automatic Control Gear, Piping, Valves and other ancillary Equipment. of Cambridgeshire, included the control Gear, Piping, Valves and other anchiary Equipment.

The Gear, Piping, Valves and other anchiary Equipment of Tender, Conditions of Contract. The Cambridge of Control of Control of Control of Control of Control of Council's Consulting Engineers, MESSRS, HARRY BROMPTON AND PARTNERS, 7 Hobart Place, Westminster, S.W.1, enclosing deposit of checked value Three Guineas, made payable to the Newmarks Place, Westminster, S.W.1, enclosing deposit of checked Council of Control of Co

COUNTY BOROUGH OF SOUTHEND-ON-

TENDERS FOR MOWERS.

TENDERS FOR MOWERS.

TENDERS are invited for the SUPPLY of HAND and MOTOR MOWERS, the Mowers on a Part-exchange Basis.

Saled Tender can be obtained from the Parks Superintendent, Burdett Road, Southend-on-Sea. Sealed Tenders, etc., must be delivered before 3 p.m. on WEDNESDAY, 13th April, 1960, in the envelope provided. No Tender bearing any mark of identification on the envelope will be accepted. The Corporation the form of the composition of the envelope will be accepted the lowest or any Tender, and reserve the right to select part of any Tender if considered advisable.

ARCHIBALD GLEN.

BOROUGH OF BANBURY. DEMOLITION OF SLUM-CLEARANCE PROPERTIES.

TENDERS are invited for the DEMOLITION of 13 SLUM - CLEARANCE PROPERTIES IN CHURCH With the Making Good of Boardary Walls and Provision of Fencing to the Cleared Site.

The Specification, Bills of Quantities and Form of Fender may be obtained on written application only from MR. J. E. NEWTON. A.M.I.C.E., A.M.I.Mun.E., BOYOUND ENGINEER OF THE PROPERTY OF THE PROPER

can be seen ourney the property of the propert

Municipal Buildings.
Mariborough Road,
Banbury, Oxon.
1981h March, 1960.

C I T Y OF D U N D E E. BORING AND SOIL TESTING AND ANALYSIS AT TWO BRIDGE SITES IN DUNDEE.

OFFERS are invited from experienced contractors for BORING. SOIL TESTING, and the submission of a specialist's report and recommendations for the FOUNDATION DESIGN for TWO BRIDGE SITES in Dundee. It is expected that hee bores in all, not less that the submission of the second of the submission of the contract of the submission of

ROBERT LYLE, Town Clerk.

City Chambers, Dundee. March, 1960

MABLETHORPE AND SUTTON URBAN DISTRICT COUNCIL.

BEACH CHALETS, MABLETHORPE.

TENDERS are invited for the CONSTRUCTION of THREE SINGLE-UNIT "DRI-CRETE" CHALETS on the CENTRAL PROMENAD at Mableth PROMENAD at Mableth Property of the Council Offices, Mablethorpe, on payment of a deposit of £1 1s., which will be returned on receipt of a bona-fide Tender.

Tenders, in plain scaled envelopes endorsed "Boach Chalets." must be received by the undersigned not late to the Council Offices of the Council of the

VINCENT LEWIS, Clerk of the Council.

CHESTER-LE-STREET RURAL DISTRICT

(1) BIRTLEY OUTFALL SEWERAGE.
(2) ROWLETCH BURN IMPROVEMENT.

TO CONTRACTORS.

The above Council invite TENDERS for the FOLLOWING.

(1) Extrev Outfall Sewerage.—Providing and Laving of about 6.400 lin. vd. of 24in., 21in., 18in., 12in. and 6in. Concrete Pipe Sewers. complete with Manholes and other appurtenant works.

(2) Rowletch Burn Improvement.—

(a) Cleaning Out of approx. 1,100 lin. vd. of Cleaning Out of approx. 1,200 lin. vd. of Burn 6°t. 6in. wide at bed.

(c) Excavating approx. 700 lin. vd. of Ditch about 6ft. 6in. wide at bed and about 6ft. deep. and forming Embank.

Ditch about 6ft. 6in, wide at bed and about 6ft. deep, and forming Embank-ments.

(d) The Construction of approx. 200 lin, vd. of Reinforced Concrete Rectangular Channel 8ft. 6in. wide: Channel 8ft. 6in. wide: Channel 7ft. 6in. lin dia.

(f) The Construction of approx. 100 lin, vd. of Reinforced Concrete Circular Culvert 7ft. 6in. lin dia.

(f) The Construction of approx. 100 lin, vd. of Reinforced Concrete Semi-circular Culvert 7ft. 6in. wide: Contractors desired the contract of the construction of approx. 100 lin. vd. of Reinforced Concrete Semi-circular Culvert 7ft. 6in. wide: Contractors desired the contract of the contract of

gineers.

The Council do not bind themselves to accept the west or any Tender.

J. SANDERS. Clerk of the Council.

Union Offices. Chester-le-Street, Co. Durham. 25th March, 1960.

CONTRACTS

WESTMORLAND COUNTY COUNCIL. ROADS AND BRIDGES DEPARTMENT.

cuments.
Tenders, in plain staled envelopes endorsed ender for Structural Steel Work, New Bridge, Kirkbyshen." should be delivered to the undersigned not er than 10.30 a.m. on THURSDAY, the 21st of 11,11 1960.

County Hall, Kendal.

BOROUGH OF SALTASH.

TENDERS are invited for the EXENSION of a MAIN SEWER at BALL PARK, ST. STEPHENS ROAD, totalling 190yd, in length of 9in, and 6in, dia. Stoneware Pipes.

on Pipes.

Drawings and Conditions of Contract may be Drawings and Conditions of Contract may be dillis of Quantities and Form of Tender obtation to the Borough Surveyor, MR. A. ARR, A.M.I.C.E., M.I.Mun.E., Church Ho

Service A.M. L. L. M. M. L. MUIL. E., LINITED TRUBER, CONTROL OF TWO GOLDERS, In the form of a crossed reque, is required, which will be returned on receipt a bona-fide Tender. The Council is not bound to cept the lowest or any Tender. Tenders, in sealed envelopes, which must not bear your indication of the sender and endorsed "Tender you indication of the sender and endorsed "Tender to the control of the sender and endorsed "Tender to the control of the sender and endorsed "Tender AY. 28th April, 1960.

A. GORDON BELLINGHAM Town Clerk

Church House, Saltash. 22nd March, 1960.

BOROUGH OF KEIGHLEY. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

BOROUGH ENGINEER AND TENDERS ARE INVITED TO BORDERS ARE INVITED TO BORDERS AND THREE-WHEEL, QUICK REVERSE ROAD ROLLER, provided with Awning with Side and End Curtains. Water Tank and Sprinklers to all Rollers. Steel-faced working weight unballasted.

Tenders, giving full Specification of the Roller quoted for, must be delivered to the undersigned not later than 10 a.m., MONDAY, 18th April, 1960.

H. W. SMITH, Town Clerk.

Town Hall, Keighley

CITY OF CARDIFF.

FIXED-PRICE TENDERS are invited for the COMPLETION WORKS at the FOLLOWING SITES:
Ely Housing Estate—Deere Road, Moore Road, Penmark Green, Penmark Road and Mill Road.
The moral Housing Estate—Skaithmuir Road.
The total work includes approx. 1,300 lin. yd. of Kerb: 3,000 sq. yd. Concrete Pavings: 4,700 sq. yd. Bitumen Macadam Road Surfacing, and ancillary works.

The moral Properties of Concrete Pavings: 4,700 sq. yd. Bitumen Macadam Road Surfacing, and ancillary works and Drawlings may be obtained from the City Surgeon at why be inspected, and to whom application should be made, accompanied by a deposit of the sum of £5 Ss. Cheques should be made pavable to the Cardiff Corporation and crossed "Not Negotiable and Co."
Separate Tenders, which may be enclosed in the cardiff Corporation and crossed "Not Negotiable and Co."

the Cardiff Corporation and crossed Not Negotiable and Co."
Separate Tenders, which may be enclosed in a single envelope, are to be submitted for Completion Works at each of the above sites.
The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents by the closing date.
Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tenders for Completion Works at Ely North and the Completion of the Contract of the Completion works at Ely North and the Completion of the Contract of the Completion of the Completion of the Completion of the Completion of the Contract of the Completion o

S. TAPPER-JONES. Town Clerk.

ST. ALBANS RURAL DISTRICT COUNCIL.

LONDON COLNEY DEPOT-RECONSTRUCTION.

The above-named Council propose to obtain TENDERS for the ERECTION of a PREFABRICATED GARAGE and WORKSHOP, approx. 160ft. long x 60ft. wide, together with the Diversion of a MAIN SEWER and ancillary Works, at their Depot at Waterside, London Colney. Firms desirous of being considered are invited to submit full particulars of their experience and similar than the Road. St. Albans, not later than the 5th APRIL. 196 ERIC N. WHEELER.

43 Upper Lattimore Road,

43 Upper Lattimore Road, St. Albans, Herts.

BAGSHOT RURAL DISTRICT COUNCIL. SEWAGE PUMPING STATION, NEW ROAD, WINDLESHAM.

The Council invite TENDERS for the CONSTRUCTION of a SEWAGE PUMPING STATION and Works incidental thereto.

Tender documents may be obtained from the Engineer and Surveyor, Council Offices, Bagshot, upon payment of £2 2s., which will be refunded on receipt of tenders must be returned to the undersigned in the envelope provided not later than Noon on MONDAY, the 18th April, 1960.

The lowest or any Tender will not necessarily be accepted.

O. V. H. FARRANT, Clerk of the Council.

CONTRACTS

DENBIGHSHIRE COUNTY COUNCIL

RUTHIN-DENBIGH ROAD, A.525.

ROAD IMPROVEMENT AT PENRHIW.

NEAR RHEWL, RUTHIN.

FIXED-PRICE TENDERS are invited for the WIDENING and REALIGNMENT of the ROAD AT ABOVE. The work comprises and other incidental control of the ROAD AT ABOVE. The work comprises and other incidental way that the office of the Contract Drawings may be inspected at the Offices of the County Surveyor, 46 Clawd Street, Ruthin, Denbighshire, from whom copies ni the Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained on payment of a deposit of \$2 25., which will be returned upon receipt of a bona-fide Tender not subsequently in Idaha. sealed envelopes endorsed to the undersigned not later than MONDAY, the 18th April, 1960.

W. E. BUFTON.

W. E. BUFTON, Clerk of the County Council.

County Offices,

COUNTY BOROUGH

BOROUGH ENGINEER'S DEPARTMENT. COAST PROTECTION ACT, 1949.

SOUTHBOURNE CLIFFS PROTECTION WORKS.

SCHEME NO. THREE.

TENDERS are invited from experienced civil engineering contractors or the CONSTRUCTION of CONSTRUCTION of CONSTRUCTION of CONCRETE SEA WALL STONE-FACED REINFORCED TOE, Three Concrete Pile Groynes, Access Road, Cliff Works and Sloping Cliff Path.

Contract documents may be obtained from Borough Engineer, Town Hall, Bournemouth, from Tuesday. 13th April, upon deposit of 55 which withdrawn. of a bona-face Tender lot subsequently withdrawn.

ndrawn. lenders to be delivered to me by 12 Noon h MAY, 1960. WEST HOWE ESTATE.

TENDERS are invited for MAKING-UP and COMPLETION of PARTS of FROST ROAD, NUTLEY WAY,
Martins of Tender, etc., available from Borough
Engineer, Town Hall, Bournemouth, where Drawlings
can be seen from 30th March, 1980, upon payment
of One Gulnea, which will be refunded on receipt of
a bona-fide Tender.

Tenders to reach me by 13th APRIL, 1980.

Tenders to reach me by 13th APRIL Tenders
Town Clerk.

BRIDLINGTON RURAL DISTRICT

HUNMANBY SEWERAGE AND SEWAGE DISPOSAL.

HUNMANBY SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited, on a FIXED-PRICE BASIS, for the LAYING of about 6.300 ill. nyd. of 6in., 9in., 12in., 15in. and 18in. CONCRETE TUBE SEWERS, together with Manholes: the CONSTRUCTION of SEWAGE DISPOSAL WORKS EXTENSIONS, and Reconnecting of House Drains.

The Construction of House Drains.

The Gables, '62a Bootham, York, during normal working hours.

Copies of the Specification and Bill of Quantities may be obtained from the above firm on deposit of which is returnable subject to the receipt of a bonafide Tender.

Tenders, in plain, sealed envelopes endorsed "Hummanby Sewarage," must reach the undersigned of later than 12 Noon on FRIDAY, '22nd April, 17 December 19 Noon on FRIDAY, '21nd April, 17 December 19 Noon on FRIDAY, '21nd April, 18 Conditional upon the approval of the Ministry of Housing and Local Government.

Rural District Council Officer's to the Council.

Rural District Council Officer's to the Council.

Rural District Council Offices, Midland Bank Chambers, Westgate, Bridlington, 24th March, 1960.

CUCKFIELD RURAL DISTRICT COUNCIL.

WORTH VILLAGE SEWERAGE SCHEME CONTRACT NO. 145.

CONTRACT NO. 145.

TENDERS are invited for the LAYING of approx.
700yd. of 6in. PITCH-FIBRE SEWERS and 14 Manholes. the CONSTRUCTION of a SEWAGE EJECTOR STATION and Motor Garage, and the LAYING of approx. 120yd. of 4in. SPUN-IRON RISING MAIN.
Plan of the control of the contro

i Council Offices, bitro Road, Hawards Heath, Sussex. 22nd March,

1960. WEST KESTEVEN RURAL DISTRICT

TENDERS FOR BUNGALOWS

TENDERS FOR BUNGALOWS.

The Council will shortly be in a position to invite TENDERS for the CONSTRUCTION of TRADITIONAL-TYPE BUNGALOWS in the Parisher (Two).

North Witham Geo.

North Witham Geo.

North Witham Geo.

Solve Works should submit their names to the Council's Surveyor, Sandon Close, Grantham, with a deposit of \$2.2 s. by cheque, made payable to the West Kesteven Rural District Council which will be returned on receipt of a bona-hot Tenders of the Council's April 10 and Tenders should be available by the Council Offices, Sandon Close, Grantham, in plain sealed envelopes marked "Ferection of Bungalows at "by the 29th APRIL, 1960.

SUPPLEMENT

LANCASHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING:

ILLULENS are invited for the FOLLOWING:
Item No.

(1) 2,200 White Poplin Shirts.
(2) 8,436 Women's Overalls and Men's Dustcoats.
(3) Rubber Boots and Weatherproof Clothing
(1) C.D.
Forms of Tender from the COUNTY MEDICAL
OFFICER OF HEALTH, Room No. 109, East Clift
County Offices. Preston, returnable by SATURDAY,
25rd April, 1960.
When applying, state the items for which forms
are required.

BOROUGH OF EDMONTON. RESURFACING OF COUNTY AND DISTRICT

TENDERS are invited for the RESURFACING of approx. 93,000yd. of CARRIAGEWAY. The work will involve Correcting existing Crossfalls and Depressions with Cold Asphalt and Bituminous Binder. Addising Levels of Manhole Covers and Goldstang Levels of Manhole Covers and Goldstang Contract documents may be obtained upon application to the Borough Engineer and Surveyor, Town Hall, Edmonton, N.9, upon payment of a deposit of \$2.2s., returnable against a bona-fide Tender. Tenders, in plain sealed envelopes endorsed Resurfacing of Country and District Roads, 1960," must be delivered to the Town Clerk by First Post on FRIDAY, 8th April, 1960.

H. BACKHOUSE, Town Clerk.

L U D L O W BOROUGH COUNCIL.

TO BUILDING CONTRACTORS.

SWIMMING POOL

The Ludiow Boroush Council invites TENDERS for STAGE FOUR of the SWIMMING POOL SCHEME, upon Bills of Quantities prepared by the Council's Quantity Surveyors, J. KIRKHAM DALE AND SON, Kings Court, 117 Colmore Row, Birmingham, 5. Mill the Changing and Ancillary A Erection of an Old The Works comprise the Conversion of an Old The Works comprise the Ancillary A Erection of Fences and Barriers, etc.
Applications for tendering documents should be made to the Council's Architects, S. N. SHRIMPTON AND SON, Chartered Architects, S. Broad Street, Ludiow, accompanied by Exposit Street, Ludiow, accompanied b

J. P. MOLONY, Town Clerk.

Municipal Offices, Ludlow, Shropshire. 23rd March, 1960.

ISLE OF AXHOLME RURAL DISTRICT

HAXEY SEWERAGE SCHEME.

CONTRACTS NOS. 1 AND 2.

CONTRACTS NOS. 1 AND 2.

TENDERS are invited for the FOLLOWING:
CONTRACT NO. 1.—The Construction of a Sewage Treatment Works, a Sewage Pumping Station and approx. 640yd. of 9in. dia.
Concrete Pipe Sewers and approx. 500vd. of 5in. dia. Asbestos-cement Rising Maln.
Assertation and Freet Duplicate Contribugal. Electrically Operated Unchokedable Sewage Pumps each of 120 gallons per minute output and zme Electrically Operated Unchokedable Sewage Pumps each of 120 gallons per minute output and zme Electrically Operated 50 gallons per minute should apply for the documents and Drawings to the Council's Consulting Engineers, 10MN H. HAISTE AND ARTNERS, 6 enclosing a deposit cheque value Three Guineas, made payable to the isle of Axholme Rural District Council, such deposit to be refunded upon receipt of a bona-fide Tender and the return of all documents and Drawings. Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Moon on 28th APRIL 1960.

S. W. CHESTER.

S. W. CHESTER. Clerk to the Council.

The Gables,
Epworth,
Doncaster.
23rd March, 1960.
CARDIGA SOUTH CARDIGANSHIRE WATER

CONTRACT NO. 14-MAINLAYING

MYNYDD BACH-ABERAYRON, CROSS INN-

MYNYDD BACH-ABERAYRON, CROSS INN-LLANON.

The South Cardisanshire Water Board invite TENDERS from graenenced contractors for the LAYING of approx. 20,000yd, of 8in., 6in., 4in. and 3in. ASBESTOS-CEMENT and SPUN-IRON WATER MAINS, and incidental works in connection therewith. Copies of the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender nay be obtained from the Engineers, MESSR. ROFE AND RAFFETY. 9 Brewer's Green, Buckingham Gate, More and States of the General Conditions of Contract on the Contract Drawings supplied.

The Contract Drawings may be inspected at the Offices of the Engineers at the above address, or at the Offices of the Engineers at the above address, or at the Offices of the Engineers at the above address, or at the Offices of the Engineers at the above address, or at the Offices of the Engineers at the above address, or at the Offices of the Engineers to intending contractors on application, accompanied by payment (not to be included with deposit cheque) therefor at the rate of 3s. per Drawing, and an undertaking to return the same within one month of the date for submitting Tenders. Payment for these the repayable. The Board reserve the right to withhold the deposit see if the Drawings are not duly returned. Tenders, on the forms supplied, with particulars of experience, must be delivered to the Clerk of the South Cardiganshire Water Board, County Office, and MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd MAY, 1960, in a plain send dater than Non, 2nd

J. E. R. CARSON. Clerk of the Board.

CONTRACTS

BEDFORDSHIRE

TENDERS are invited for the SUPPLY and DELIVERY of SOLID FUEL to VARIOUS ESTABLISHMENTS under the CONTROL of the COUNTY COUNCIL of the Countract may be obtained from the Director of Education, Shire Hall, Bedford. Tenders, made out on the official forms only, must be posted in a plain sealed envelope endorsed in the top left-hand corner with the words "Tender for the political of the CLERK of the COUNTY COUNCIL SECOND COUNCIL OF THE COUNTY COUNTY COUNCIL OF THE COUNTY COUNTY COUNCIL OF THE COUNTY COUNTY COUNTY COUNCIL OF THE COUNTY C

STREET LIGHTING COMMITTEE.

GROUP "A" STREET LIGHTING-LEEDS ROAD.

A.58.

TENDERS are invited for the FOLLOWING:

(a) The Supply of 44 400-W Mercury Discharge
Lighting Units, with all the necessary gear.

(b) The Provision and Erection of 42 25ft.
Prestressed Reinforced Concrete Columns
and Drackess, and the Installation of the
Armonist Street, and the Installation of the
necessary wiring.
Documents may be obtained from the Borough
Engineer, Commercial Street, Brighouse.
Tenders, with completed Bill of Quantities, to be
returned to the undersigned not later than Noon on
WEDNESDAY, 20th April, 1960, in a plain sealed
envelope endorsed "A.58—Street Lighting."
The Corporation do not bind themselves to accept
the fowest or any Tender.

JOHN R. LIDDLE. JOHN R. LIDDLE, Town Clerk.

Town Hall, Brighouse.
21st March, 1960.

CITY OF CANTERBURY. CONSTRUCTION OF ROADWORKS AND SEWER IN THE MAKING-UP OF ST. AUGUSTINE'S ROAD (PART) UNDER THE HIGHWAYS ACT, 1959.

(PART) UNDER THE HIGHWAYS ACT, 1959.

TENDERS are invited for the CONSTRUCTION of CARRIAGEWAY and Footways (approx. length 120vd.)

Love and the construction of Construction Surface Water Sewer, Street Lighting, etc.

Drawings, Specification, Bill of Quantities and Form of Tender may be obtained from the City Engineer Municipal Buildings, Dane John, Canterbury, General Conditions of Contract may be examined at his office during normal office house end envilopes endorsed "St. Augustine's Road Roadworks." should be returned to the undersigned and received not later than SATURDAY, 9th April, 1960.

(Signed) I. ROYLE.

(Signed) J. BOYLE, Town Clerk

Municipal Buildings, Canterbury, 22nd March, 1960.

BRENTWOOD URBAN DISTRICT

TENDERS are invited for the SUPPLY and DELIVERY of some or all of the FOLLOWING VEHICLES and PLANT:

2 Sewt. Vans.

1 Sewt. Vans.

1 Mechanical Road Sweeping Machine.

1 Combined Cespool and Gully Cleansing Machine.

1 2 cu. yd. Dumper.

1 Tailer for Short-wheelbase Land-Rover.

1 Trailer for Short-wheelbase Land-Rover.

1 Trailer for Short-wheelbase Land-Rover.

CLEMENT BOOTH, Clerk of the Council. Council Offices, Brentwood, Essex. 22nd March, 1960.

BANSTEAD URBAN DISTRICT COUNCIL. HIGHWAYS ACT, 1959-PRIVATE STREET WORKS.

HIGHWAYS ACT. 1959—PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP—as individual streets or both streets collectively—CHAPEL WAY (part), Tattenhams (approx. length 430yd.) and ST. MARK'S ROAD, Tattenhams (approx. length 135yd.), comprising Kerbing, Flag Paving, Garage and Str. acing, etc.

Drawings and Conditions may be seen, and copies of Contract documents and Forms of Tender obtained, from the Engineer and Surveyor upon payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender, not subsequently withdrawn.

Chapel Way and St. Mark's Road, P.S.W." and not bearing any name or mark indicating the sender, must be returned to the undersigned not later than FRIDAY, 22nd April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. L. SHAW, Clerk of the Council.

The Council House, Brighton Road, Banstead, Surrey

BANSTEAD URBAN DISTRICT COUNCIL. HIGHWAYS ACT, 1959-PRIVATE STREET WORKS.

HIGHWAYS ACT, 1959—PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP—as individual streets or both streets collectively—HILLSIDE (part), Banstead (approx. length 55yd.) and TUDOR CLOSE (part), Banstead (approx. length 48yd.), comprising Kerbing, Flag Paving, Turf Verges, Bituminous Macadam surfacing, etc. Drawings and Conditions may be seen, and copies of Contract documents and Forms of Tender obtained, from the Engineer and Surveyor upon payment of a bona-fide Tender, not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Hillside and Tudor Close, P.S.W.," and not bearing any name or mark indicating the sender, must be returned to the undersigned not later than FRIDAY, 22nd April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. L. SHAW, Clerk of the Council.

The Council House, Brighton Road, Banstead, Surrey.

CONTRACTS

COUNTY COUNCIL. COUNTY COUNCIL OF MIDDLESEX. LONDON-BRISTOL TRUNK ROAD, A.4-

DUPLICATION OF CARRIAGEWAYS BETWEEN CRANFORD HALL GARAGE AND THE GREAT SOUTH WEST ROAD, A.30.

TENDERS are invited for the CONSTRUCTION of prox. 1.2 miles of dual 24ft. CARRIAGEWAYS by idening and improving the existing Road between

TENDERS are invited for the approx. 1.2 miles of dual 24ft. CARRIAGEWAYS by approx. 1.2 miles of dual 24ft. CARRIAGEWAYS to widening and improving the existing Road between the control of a Sub-base of Clinker Concrete, a Base strain of a Sub-base of Clinker Concrete, a Base strain Reinforced Concrete and Hot Rolled Asphalt Surfacing, except in two experimental lengths where the Sub-bases will be Hoggin and the sub-bases will be Hoggin and the sub-bases will be Hoggin to the sub-bases will be sub-base. The Rodworks comprise Earthworks. Surface Water Drainage, Bus-bays, Kerbing, Footways, Fencing, and ancillary works which include Demolitions.

The Structural Works involve Widening an existing the Structural Works involve Widening an existing examined, at the Offices of the County Engineer and Surveyor, Middlesex House, 20 yauxhall Bridge Road, London, S.W.1, upon deposit of £25, which is returnable on submission of a bona file the undersigned, in the envelopes provided, by not later than Noon on WEDNESDAY, 4th May, 1960.

The County Council does not bind itself to accept the lowest or any Tender, COODACRE, KENNETH Clerk of the County Council.

Clerk of the County Council.

COUNTY BOROUGH OF ST. HELENS. ERECTION OF A BLOCK OF SIX SHOPS AND

TICKLE AVENUE—CHANCERY LANE SITE,

The St. Helens Corporation invite TENDERS for the ERECTION and COMPLETION of a THREE-STOREY BLOCK of SIX SHOPS and EIGHT MAISONNETTES, to be DECKED STOREY BLOCK OF SIX SHOPS and EIGHT MAISONNETTES, to be DECKED STOREY FOR STOREY FO

THE URBAN DISTRICT COUNCIL OF KEYNSHAM.

SURFACE DRESSING, 1960.

TENDERS are invited for CARRYING OUT the SUFFACE DRESSING of approx. 26,600 sq. vd. of DISTRICT ROADS within the Urban District. Specification and Form of Tender may be obtained upon application to the Engineer and Surveyor. Council Offenders, in plain sealed envelopes endorsed "Surface Dressing," should be delivered to the undersigned not later than First Post on THURSDAY, 14th April, 1960. Tenders, in Dressing," should be delivered to Dressing," should be delivered to Later than First Post on THURSDAY, 14th 1960 The Council do not bind themselves to accept the lowest or any Tender, lowest or any Tender, Clerk of the Council

Council Offices, Keynsham, Bristol, 23rd March, 1960.

THE WEST HERTFORDSHIRE MAIN DRAINAGE AUTHORITY.

HILL END RELIEF SEWER. CONTRACT NO. S.11.

The West Hertfordshire Main Drainage Authority ormerly the Coine Valley Sewerage Board) is epared to receive TENDERS, on a FIXED-PRICE ASIS, for the CONSTRUCTION of the FOLLOWING ORKS:—

Brebared to receive Tenders, on a FIXED-PRICE
BASIS, or the CONSTRUCTION of the FOLLOWING
WORRS. 750yd. of 12in, dia. Concrete Sewer and
Approx. 750yd. of 12in, dia. Concrete Sewer,
together with all necessary Manholes.
All the elinstatement and other appurtenant Works.
All the elinstatement and other appurtenant Works.
All the Drawings and the Specification prepared by
the Engineers, MESSRS, JOHN TAYLOR AND SONS.
Artillery House. Artillery Row, Victoria Street, Westminster, St. Specification, Bill of Quantities, Form of
Tender and Contract (together with Drawings Nos. 1
To 3, inclusive. which are to be returned with the
completed Tender), will be available on the 28th
March, 1960, and may be obtained from the Engineer's
to the Authority), which will be returned upon receipt
to the Authority), which will be returned upon receipt
to the Authority, which will be returned upon receipt
to a bona-fide Tender.
Tenders, in plain sealed envelopes endorsed "Hill
and Relief Sewer—Contract S. 11." should be
WEDNESDAY, 20th April, 196
The Authority does not bind itself to accept the
lowest or any Tender.

JOHN A. LONGMORE.
Clerk of the Board.
Lerk of the Board.

GREAT OUSE RIVER BOARD. RIVER OUSE-STONY STRATFORD-WOLVERTON.

RIVER OUSE—STONY STRATFORD-WOLVERTON.

TENDERS are invited for the DREDGING of the RIVER OUSE between Stony Stratford and Wolverton. In Buckinghamshire. The work includes the Excavation of approx. 23,300 cu. yd. of Spoil, and the subsequent over a distance of approx. One Mile.

Copies of the Contract documents and Drawings for the works may be obtained from the Engineer of the Board, at the address given below, on payment of a deposit of £5 5s. MBF set (cheque to be made payable to Great Ouse River Board), which will be refunded on the receipt of a bona-fide Tender, not documents and Drawings and on the return of all documents and Drawings and on the return of all documents and Drawings and on the return of all decuments and Drawings and provided, must be received by me not later than First Post, FRIDAY, 22nd April, 1960.

Elmburst,
Rocklands Avenue.

Elmhurst, Brooklands Avenue, Cambridge,

BOROUGH OF BRIDGWATER. WEST STREET REDEVELOPMENT AREA-

ROADS, SEWERS AND WATER MAINS.

ROADS, SEWERS AND WATER MAINS.

TENDERS are invited for the ABOVE CONTRACT, which consists of approx. 2,500 sq. yd. of Tarmacadam Carriageway, 778 lln. yd. of Precast Concrete Kerbs, and Clin. yd. of 6in, to 12in, dla. Glazed Stoneware Sewers, 253 lln. yd. of 15in, to 21in, dla. Precast Concrete Manholes, 237 lin. yd. of 15in, to 21in, dla. Precast Concrete Manholes, 237 lin. yd. of 3in, dla. and 18 lin. yd. of 4in, dla. Class Brite Drawing and General Conditions of Contract may be inspected at the offices of the Borough Brite Drawing and General Conditions of Contract may be inspected at the offices of the Borough Brite Drawing and General Conditions of Contract may be inspected at the offices of the Borough General Conditions of Contract may be inspected at the offices of the Borough and the property of the Brite B

H. A. CLIDERO, Town Clerk.

Town Hall.
Bridgwater.
21st March, 1960.

BOROUGH OF FINCHLEY.

RELAYING OF ARTIFICIAL STONE PAVING, TOGETHER WITH ANCILLARY WORKS.

TENDERS are invited for the ReLAYING of approx. 22,500 super. yd. of ARTIFICIAL STONE PAVING and a recommendation of ARTIFICIAL STONE ARTIFICIAL SCHOOL ARTIFICATION ARTIFICIAL SCHOOL ARTIFICATION ARTIFICIAL SCHOOL ARTIFICATION ARTIFICATION ARTIFICIAL SCHOOL ARTIFICIAL SCHOOL ARTIFI

whole of the Works and the return of all Papers supplied.

No Tender will be considered unless received in a plain scaled envelope marked "Tender for Relaying Paving, etc.," and not bearing any name or mark indicating the sender.

Indicating the sender, the undersigned by not later than 12 Noon on MONDAY, 25th April, 1960.

The Council does not bind itself to accept the lowest or any Tender.

R. M. FRANKLIN.

R. M. FRANKLIN.

Municipal Offices, Finchley, N.3. March, 1960.

OF FINCHLEY. BOROUGH

DENISON CLOSE, N.2.

TENDERS are invited for MAKING-UP the ABOVE-MENTIONED PRIVATE STREET. Drawings and Conditions of Courtact may be seen at, and Specifications of Courtact may be seen at, and Specifications of Courtact may be seen at, and Specification of the Borough Figure 1 to the seen of the Borough Figure 1 to the seen of the Borough Figure 2 to the seen of the seen

R. M. FRANKLIN. Town Clerk

BOROUGH OF LOUGHBOROUGH.

LAYING OF 6IN., 4IN. AND 3IN. SPUN-IRON WATER MAINS.

WATER MAINS.

FIXED-PRICE TENDERS are invited for the LAYING of approx. 736 lin. vd. of 6in., 1,540 lin. vd. of 6in. o

Southfields, Loughborough. March, 1960.

GLANFORD BRIGG RURAL DISTRICT

KIRTON-IN-LINDSEY SEWERAGE SCHEME.

CONTRACTS NOS. 2 AND 3.

CONTRACTS NOS. 2 AND 3.

CONTRACT NO. 2.

The CONSTRUCTION of a SEWAGE EJECTOR STATION and approx. 550vd. of Sin. dia. CONCRETE PIPE SEWERS and approx. 560vd. of 4in. dia. ASBESTOS-CEMENT RISING MAIN at Kirton-in-Lindsey. Lincolnshire.

CONTRACT NO. 3.

DUPLICATE ELECTRICALLY OPERATED SEWAGE EJECTORS, each of 30 g.p.m. output. Contractors withing to tender should apply for Contractors withing to the Council services and the Section of Contractors withing to the Editor of English the Council such deposit to be refunded upon receipt of a bona-fide Tender and the return of all documents and Drawings. Tenders, with Bills of Quantities priced in ink, are be submitted to the undersigned not later than 3 the Council do not bind themselves to accept the lowest or any Tender they may receive.

M. W. BAILEY, Clerk of the Council. Rural Council Offices, Bigby Street,

Rural Council Offices, Bigby Street, Brigg, Lincs.

CONTRACTS

MIDDLESEX COUNTY COUNCIL. EAST MIDDLESEX MAIN DRAINAGE.

CONTRACT EMD.7.

CONTRACT EMD.7.

TENDERS are invited for the CONSTRUCTION at DEEPHAMS SEWAGE WORKS, of Montagu Road. Edmonton. N.9, of the FOLLOWING BUILDINGS:

(1) Power House Superstructure 326ft. x 98ft. x 26ft. x 26ft.

The Eccles Corporation invite TENDERS for the SULLDING of a BRANCH LIBRARY in LIVERPOOL ROAD, PEEL GREEN, Eccles. Peel Conditions, Specification, Bills of Quantities and Form of Tender obtained from, the Borough Engineer and Survevor, Town Hall Annexe, Irvell Place, Eccles, on payment of a deposit of £3 35., which will be returned on receipt of a bona-fide Fender. Sec. Eccles, on payment of a deposit of £3 35., which will be returned on receipt of a bona-fide Fender. Sec. Eccles, on payment of a deposit of £3 35., which will be returned on must reach the undersigned not later than 10 a.m. on MONDAY, the 25th April, 1960. The envelope must not bear any name or mark indicating or identifying the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

NORMAN MITCHELL.

Town Late.

Town Hall, Eccles, March, 1960.

HAVERHILL URBAN

WATER TOWER.

WATER TOWER.

The Council invite TENDERS from contractors experienced in water towen construction and similar work for the CONSTRUCTO of REINFORCED CONCRETE WATER TOWER of 150,000 gallons capacity, together with Pipework and other incidental work, in the above Urban District.

A copy of the Drawings and Contract documents may be obtained on or after 4th APRIL. 1950, from the Consulting Engineers to the Council. HOWER, Victoria Street. Westminster, London, S.W.1, on payment of a deposit of Five Guineas, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Application for Tender documents must be accompanied by the names and addresses of Engineers carried out by the applicant.

Tenders, enclosed in a plain sealed envelope which shall not bear any name or mark indicating the sender, and endorsed "Tender for Water Tower," must reach the undersigned not later than the First Post on MONDAY, 2nd May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

W. C. BLAKE, Clerk of the Council.

WHITTLESEY URBAN DISTRICT

WHITTLESEY WATER-CONTRACT NO. 9.

WHITLESEY WATER—CONTRACT NO. 9.

TENDERS are invited for the SUPPLY and LAYING of approx. 1,300yd. of 4in. and 9in. dia. SPUN-IRON WATER MAINS, together with appurtenant fittings. Contractors desirous of tendering may obtain copies of the Form of Tender, General Conditions, Specification and Bill of Qu. McGerell Conditions, Specification and Bill of General Conditions, Conditions, Conditions, Conditions, Con

H. KEWISH. Clerk of the Council. Council Offices, Whittlesey, Near Peterborough. 30th March, 1960.

BRISTOL AVON RIVER BOARD. CONTRACT NO. 195.

CONTRACT NO. 195.

The Bristol Avon River Board invite TENDERS for CIVIL ENGINEERING WORKS at AVONWER. The Works comprise the Construction of the Concrete Access Bridge, Channel Excavation and anciliary Works.

Applications for conjes of the Specification, Bill of Quantities and Contract Drawings should be made to the undersigned.

Tenders, dust be delivered to the Clerk of the Board at 18 Bennett Street, Bah, not later than Noon on THURSDAY, 21st April, 1960.

18 Bennett Street, Engineer to the Board.

CONTRACTS

ARNOLD URBAN DISTRICT COUNCIL. HARD TENNIS COURTS.

TENDERS are invited from specialist contractors for the CJNSTRUCTION of THREE "NON-ATTENTION" TYPE TENNIS COURTS at the KING GEORGE V PLAYING FIELD, Arnold.

Drawing, Specification and Bill of Quantities may brawing, Specification of the Council Offices Arnott Hill Park, Arnold, Nottingham, on payment of a deposit of \$2.2 s. (by cheque payable to the Arnold U.D.C.), which will be returned on receipt of a bonafee Tenders must be returned in the envelope provided in the Council does not afterwards withdrawn.

Tenders must be returned in the envelope provided in the Council does not have the provided in the council does not have the coun

Clerk's Office, Arnot Hill House, Arnold, Nottingham

URBAN DISTRICT COUNCIL OF

PRIVATE STREET AND OTHER ROADWORKS.

PRIVATE STREET AND OTHER ROADWORKS.

FIXED-PRICE TENDERS are invited for the MAKKING-LIP of the FOLLOWING PRIVATE STREETS of MAKKING-LIP of the FOLLOWING PRIVATE STREETS of MAKKING-LIP of the FOLLOWING THE THE STREETS of MAKKING-LIP of TATMACAD CONSTRUCTION of MAKKING-LIP of TATMACAD CONSTRUCTION OF THE STREETS OF THE S

D. J. WALKER, Clerk of the Coun

Town Hall, Royston, Herts.
21st March, 1960.

TENTERDEN RURAL DISTRICT COUNCIL.

MAIN DRAINAGE OF ROLVENDEN HILL BUNGALOWS.

T30/6 CONTRACT 1.

T30/6 CONTRACT 1.

The Tenterden Rural District Council are prepared to receive TENDERS for the LAYING of approx. Son the Construction of a Sewage Disposal Works, and other ancillary works.
Particulars and Specifications may be obtained, and Plans may be inspected, at the Offices of the Consulting Engineers, MESSRS. HOWARD HUMSTER, SWINGER, SW

not later than Noon on Washington 1960.

The Council do not bind themselves to accept the lowest or any Tender.

DELVES.

J. M. DELVES, Clerk of the Council.

EAST ANGLIAN REGIONAL HOSPITAL

FIRM-PRICE TENDERS will be invited shortly from selected contractors for the ERECTION of a BOILER HOUSE BLOCK. Incorporating MORTUARY. POST-MORTEM. ANIMAL HOUSES and WORKSHOPS, on the SPITAL in MIDLAND ROAD, to serve the existing buildings and new main nospital block to be built as a later phase of the £22m. development scheme. (The Contract recently left for the Nurses' Homes is on separate site.) as of reinforced concrete-framed construction, with external brick cladding and curtain wailing, the main boiler chimney being approx. 100th. high: roads, external works and drainage are also included. The estimated cost is approximately £1, and including boiler plant and stranger are also included. The estimated cost is approximately £1, and the stranger of the

BIRMINGHAM TAME AND REA DISTRICT

CONTRACTOR'S PLANT.

TENDERS are invited for the SUPPLY and DELIVERY of an EXCAVATOR, Diesel Engine-driven, approx. capacity 3 cu. vd.
Documents may be obtained from the Engineer to the Comments of the Comment of the Comme

ARTHUR J. WRIGHT, Clerk to the Board.

SUPPLEMENT

BOROUGH OF MIDDLETON. CONSTRUCTION OF PLAYING FIELD AT

HOLLIN ESTATE.

TENDERS are invited for the CONSTRUCTION of a PLAY NG FIELD of approx. 5'2 acres in area. The works comprise Soil Stripp.ng, Excavation and Levelling, Subsoil Cutivation, Replacement of Topsoil, Drainage Works, Topsoil Cutivation, Seed Bed Preparation, Sowing and Fencing.

Drawings may be inspected, and copies of the Conditions of Contract, Specification, Bill of conditions of Contract, Specification, Bill of the Officer of the Borough Surveyor, Town Hall, Middleton, on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, endorsed "Playing Fields—Hollin," to be delivered in plain sealed envelopes to the undersigned not later than Noon on SATURDAY, 9th April, 1960. The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON, Town Clerk

Town Hall, Middleton, Near Manchester. 17th March, 1960.

BOROUGH OF HARTLEPOOL. PRIVATE STREET WORKS-LOWDALE LANE.

TENDERS are invited for the MAKING-UP of the ABOVE-NAMED STREET, involving the Construction of the Construction of the Street, and the Plans inspected at, the Office of the Borough Engineer, Borough Buildings, Martlepool, on payment of a deposit of £2, which will be refunded on receipt of a bona-hide Tender.

Tenders, in plain sealed envelopes endorsed "Tender for Private Street Works—Lowdale Lane." must be delivered to the undersigned not later than 12 Noon, MONDAY, 25th April, 1950.

The Council does not bind itself to accept the lowest or any Tender.

L. O. WILLIAMS.

L. O. WILLIAMS.

Borough Buildings, Hartiepool.

BOROUGH OF AYLESBURY.

BUCKINGHAM ROAD AREA-DRAINAGE.

BUCKINGHAM ROAD AREA—DRAINAGE.

TENDERS are invited on a fixED-PRICE BASIS, for the LAYING of approx. 3.200vd. of CONCRETE and GLAZED STOMEWARE SURFACE WATER SEWERS, varying in dia. from 9in, to 48in., including Mass Concrete, Concrete Ring and Brick Manholes, Guily Connections and anciliary Works.

Form of Tender, Specification and Bills of Quantities may be obtained from the Borough Engineer and Buckinghamshire, on the payment of a deposit of Two Guineas, returnable on the receipt of a bona-fide Tender.

Buckinghamshire, which the receipt of Guineas, returnable on the receipt of Guineas, returnable on the receipt of Tender, I a plain sealed envelope endorsed "Buckingham Road Area—Drainage," must be delivered to the undersigned not later than Noon on THURSDAY, 21st April, 1960.

The Council do not bind themselves to accept the lowest of any Tender.

R. D. W. MAXWELL, Town Clerk.

CITY HEREFORD.

NEWTON FARM HOUSING ESTATE.

ROADS AND SEWERS-SECTION 5

The COUNCIL invite TENDERS for the CON-STRUCTION of ROADS and SEWERS on the ABOVE ESTATE. The scheme comprises the Provision of Foul and Surface Water Sewers, Kerbing, Channelling, Pitched Foundation, Macadam Surfacing, and all incidental works. Carriageway area approx. 15,000 so. vd.

Inclined works. Carriageway area approx. 15,000 sq. yd.
Drawings may be seen at, and Tender documents obtained from, the Office of the City Surveyor, Town Hall, Hereford, upon deposit of Two Guineas, refundable on receipt of a bona-fide Tender not subsequently withdrawn provided, and bearing no mark or indication of the sender, must be delivered to me not later than 9 a.m., THURSDAY, 21st April, 1960.

he Council do not bind themselves to accept the st or any Tender. T. B. FELTHAM, Town Clerk

Town Half, Here ord. March, 1960.

CHISLEHURST AND SIDCUP URBAN

ERECTION OF FIVE BUNGALOWS, LONGLANDS ROAD, SIDCUP.

Contractors wishing to TENDER for the ABOVE. apply immediately to Engineer and Surveyor, Manor House, Siddup, enclosing a deposit of £2 2s., to be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Tender documents, including Bills of Quantities, will be despatched, and the closing date for receipt of Tenders announced early in April.

T. W. FAGG. Clerk of the Council.

RURAL DISTRICT COUNCIL OF

PENPELLENI HOUSING SITE.

TENDERS FOR NEW ROADS AND SEWERS.

The Council invite TENDERS for the DEVELOPMENT of the REMAINDER of their HOUSING SITE
at Pennelleni, near Mantyderry, in accordance with
Plans, Sections, Specification and Bills of Quantities,
a copy of which marked the section of the Engineers, MESSRS, THOMAS NA DEVICE of the Engineers, MESSRS, THOMAS NA DEVICE OF THOMAS

T. P. HOLMES WATKINS, Clerk to the Council.

Union Offices, Pontypool, Mon.

MINISTRY OF TRANSPORT. LONDON-FISHGUARD TRUNK ROAD.

PORT TALBOT BY-PASS—CONTRACT NO. ONE—BRITON FERRY TO SUNNYCROFT ROAD, BAGLAN.

EAST WORTHING SEWAGE WORKS EXTENSION—CONTRACT ONE—MAIN PUMP HOUSE WORKS AND STREAM DIVERSION AND CULVERTING.

AND STREAM DIVERSION AND CULVERTING.

The Borough Council invites contractors with wide experience of similar work, and who are willing to TENDER for the ABOVE CONTRACT, to submit their names and give full details of such experience to G. H. KEMPTON A.M. I.C.E. T. T. I.C. M. M. Mottler, and the contract of the contra

ERNEST G. TOWNSEND,

Town Hall,

BOROUGH OF WORTHING.

PRIVATE STREET WORKS.

PRIVATE STREET WORKS.

The Corporation invites TENDERS for the FOLLOWING:—

(1) Harrison Road—Construction of 855 sq. vd. of Concrete Carriageway. 7in. thick: 682 sq. vd. of Flag Paving and 90 lin. vd. of Carriageway with Flint Foundation and 3-lin. Coarse Cold Asphalt Surface, and 460 al. nc. coarse Cold Asphalt Surface, and 460 al. nc. coarse Cold Asphalt Surface, and 460 apolication to the Borough Engineer, rown Hall Worthing, on payment of a deposit of £2 2s. for each set of documents, which will be returned on receipt of a bona-fide Tender or return of the Contract documents. General Conditions of Contract and Drawings may be considered to the Contract of Street Co

Town Hall, Worthing, 22nd March, 1960. THORNEY RURAL DISTRICT COUNCIL.

THORNEY RURAL DISTRICT COUNCIL.

TENDERS are invited from recognised civil engineering or building contractors for the LAYING-IN of NEW FOUL SEWERS, WATER MAINS, etc., to CERTAIN PROPERTIES on the North Side of A.47, in THORNEY. Cambs. The following are involved:

Approx. 25vyd Run Gin, Foul Sewer.

Approx. 220vyd Run Gin, Foul Sewer.

Approx. 220vyd Run Gin, Foul Sewer.

Approx. 220vyd Run Gin, Foul Sewer.

Approx. 240vd, Run Gin, Foul Sewer.

Approx. 240vd, Run Gin, Foul Sewer.

Approx. 440vd, Run Gin, Foul Sewer.

Approx. 440vd, Run Gin, Foul Sewer.

Also the Installation of 32 W.C. Suites with Water Services and other incidental works.

Contractors desirous of tendering should apply forthwith to the Council's Architects, MESSRS.

RUDDLE AND WILKINSON, Fi/A.R.I.B.A., of Long Causetties, which will be ready for issue on or about 4th APRIL, 1960.

Drawings showing the work involved are available Drawings showing the work involved are available working hours.

working hours.

The Council do not bind themselves to accept the lowest or any Tender.

(Signed) J. FORD, Clerk to the Council.

Council Offices, Thorney, Peterborough, 21st March, 1960.

BEVERLEY RURAL DISTRICT COUNCIL. DUPLICATE RESERVOIRS AT HIGH HUNSLEY AND

TENDERS are invited for the CONSTRUCTION of ONE 200.000-GALLON REINFORCED CONCRETE RESERVOIR on the SITE adjacent to the existing RESERVOIR at HIGH HUNSLEY, and ONE 100.000-GALLON REINFORCED CONCRETE RESERVOIR adjacent to the SITE of the existing RESERVOIR at Globert of the SITE of the SITE OF CONCRETE RESERVOIR adjacent to the SITE of the existing RESERVOIR at Globert of the SITE of the SITE OF CONCRETE RESERVOIR at Globert of the SITE OF CONCRETE OF CONCRE

CONTRACTS

COUNTY COUNCIL OF THE WEST

TENDERS are invited for ADAPTATIONS AND ADD TIONS to the DENTAL CLINIC, 13 HANOVER STREET, Batley.

Plans and Specification are now available for inspection at the Office of the Country Architect, Bahogarth Westhele and Specification are now available for inspection at the Office of the Country Architect, Bahogarth, Westheld Road, And Proceedings of the Country Architect, Bishopgarth, Westheld Road, Wakefield, and received not later than MONDAY, 11th April, 1960.

The Contract will be under the provisions of the R.I.B.A. Conditions and Form of Agreement.

Sealed Tenders must be addressed to me, the undersigned, and received at Room 5, Country Hall, Wakefield, not later than 12 Noon on MONDAY, the 9th May, 1960.

BERNARD KENYON,

the 9th May, 1960.

BERNARD KENYON,
Clerk of the County Council.

EAST SUFFOLK COUNTY COUNCIL.

PROPOSED SUBWAY NEAR KESGRAVE SCHOOL-CONTRACT NO. 25.

CONTRACT NO. 25.

The County Council invite TENDERS from contractors experienced in such work, for the CONSTRUCTION of a REINFORCED CONCERTE SUBWAY under the TRUMK ROAD near KESGRAYE SCHOOL.

REINFORCED CONCERTE SUBWAY under the Council of the Co

G. C. LIGHTFOOT.
Clerk of the County Council.

County Hall,

COUNTY BOROUGH OF NORTHAMPTON. TENDERS are invited for the CONSTRUCTION

TENDERS are invited for the CONSTRUCTION of:—

(1) Approx. 400 lin. yd. of Dual Carriageway with Concrete Foundation and Asohalt Surfacing, comprising the Second Section of the Link Road between Bridge Street, A.50, and Black Lion Hill, A.45, 20 Approx. 800 yd. of Foul and Surface Water Sewers, 6in. to 18in. dia. together with Manholes and ancillary Works, in the Central Redevelopment Area.

Contractors wishing to Tender for either or both of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Contractors wishing to Tender for either or both of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Above Works should apply to the Borough of the Above Works will be returned if a bona-fied tender is received by 10 a.m. on 23rd APRIL, 1960, and not subsequently withdrawn.

CELY AND COUNTY OF BRISTOL

CITY AND COUNTY OF BRISTOL

PREPARATION OF HOUSING SITE.

THE ROCK, BRISLINGTON.

THE ROCK, BRISLINGTON.

TENDERS Invited for CONSTRUCTION of ROADS and SEWERS on ABOVE SITE.

Work Includes approx. 7,500 sq. yd. of Reinforced Concrete Roads, Including Kerbing and 1,500 sq. yd. of Reinforced Concrete Roads, Including Kerbing and 1,500 sq. yd. of Reinforced Roads, Including Kerbing and 1,500 sq. yd. of Roads, Including Kerbing and 1,500 sq. yd. of Roads, Including Kerbing and 1,500 sq. yd. of Sewers from 6im. to 18in. dia.

Plans seen, and cooles of Conditions of Contract, Specification and Bill of Quantities obtainable at Offices of City Englineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1.

Tenders, in envelope provided, endorsed "The Rock Housing Site, Brislington," but bearing no mark to indicate sender, to City Englineer AND PLANNING OFFICER by 10 a.m., 22nd APRIL.

TIPRAN DISTRICT COUNCIL OF

URBAN DISTRICT COUNCIL OF

VICTORIA STREET-RECONSTRUCTION

VICTORIA STREET—RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of an EXISTING DISTRICT ROAD. The work consists of the FOLLOWING APPROX. QUANTITIES: 1,000 cu, yd. Excavation in existing Carriageway. 3,000 sq. yd. Reinforced Concrete Carriageway. 800 lin. yd. Precast Concrete Carriageway. 800 lin. yd. Precast Concrete Carriageway. 801 lin. yd. Precast Concrete Carriageway. 802 lin. yd. Precast Concrete Carriageway. 803 lin. yd. Precast Concrete Carriageway. 804 lin. yd. Precast Concrete Carriageway. 805 lin. yd. Precast Concrete Carninel. Specification, Bill of Quantities and Form of Tender Maria Carriageway. 806 lin. yd. Precast Concrete Carninel. 807 lin. 8 be Council do not bind themselves to accept the est or any Tender.

W. BALSON, Clerk of the Council.

URBAN DISTRICT OF TETTENHALL. FINCHFIELD ROAD WEST, B.4161.

ROAD IMPROVEMENT WORKS.

THE COUNCIL Invite TENDERS for ROADWORKS to the ABOVE. The work comprises Erection of Forecourt Walls, Excavation, Kerbing, Channelling and Paving of Carriageways and Footpaths, and other incidental Works.

Bills of Quantities and Conditions of Contract may be obtained from the Office o' J. W. MASON.
M.I.Mun.E., M.T.P.I., Engineer and Surveyor, Council denoist of Three Guineas, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

receipt of a bona-fine Tenoer fine acceptance withdrawn. Tenders, in plain sealed envelopes, bearing no indication of the sender's identity and endorsed "Roadworks—Finchfield Road West," must be delivered to the Office of the undersliped not later than 9 a.m. on TUESDAY, 12th April, 1960. The acceptance of the Tender is subject to the approval of the County Council as highway authority. The Council do not bind themselves to accept the lowest or any Tender. Dated this 25th day of March, 1960.

Council Offices.

Council Offices. Upper Green, Tettenhall, Staffs.

CONTRACTS

BRACKLEY-BEDFORD ROAD, A.422.

RECONSTRUCTION OF STANTONBURY CANAL BRIDGE AND APPROACHES.

TENDERS are invited, on a Fixed-price Basis, for the REMOVAL of the EXISTING BRIDGE the CONSTRUCTION of a NEW BRIDGE over the GRAND UNION CANAL, skew span 26ft. flin, width 5 ft. 9in., comprising Concrete Abutments, Prestressed Concrete Struction of ROAD APPROACHES, approximate the CONSTRUCTION of ROAD APPROACHES, approximate the CONSTRUCTION of ROAD APPROACHES, approximate and prainage Kerbing. Channelling, Tarmacadam and Rolled Concrete Foundation.

Contract documents and Drawings may be obtained from the County Surveyor, County Offices, Aylesbury on payment of a deposit of £5, returnable on receipt of a bona-fide Tender and all Drawings issued.

SATURDAY, 30th April, 1960, the undersigned operovided, endorsed "Stantonbury Canal Bridge."

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD.

WARWICKSHIRE COUNTY COUNCIL.

RECONSTRUCTION OF FEATHERBED LANE

CANAL BRIDGE.

Tenders are invited for DEMOLISHING the EXISTING BRIDGE and CONSTRUCTING a RE-INFORCED CONCRETE BRIDGE decked with Precast Prestressed Beams. Permanent Roadworks are not included.

Was a permanent Roadworks are not included. Was a permanent from the County Surveyor, Shire Hall. Warwick, on payment of Five Guineas, which will be refunded in full on receipt of a bona-fide Tender not subsequently withdrawn. Tenders must be delivered to the County Surveyor not later than 12 Noon on MONDAY, 2nd May, 1960.

The County Council do not bind themselves to accept the lowest or any Tender.

L. EDGAR STEPHENS, Clerk of the County Council.

COUNTY BOROUGH OF HUDDERSFIELD. CONSTRUCTION OF INNER RING ROAD.

CONSTRUCTION OF INNER RING ROAD.

TENDERS are invited for the CONSTRUCTION of ectons 1 to 5 of the INNER RING ROAD, comrising approx. 1,200 lin. yd. of Dual Carriageway einforced Concrete, Hot Rolled Asphalt-surfaced approx. Including all the necessary Demolitics Raindabots, including all the necessary Demolitics Raindabots, including all the necessary Demolitics Raindabots, including all the necessary Demolitics Raindabots. Specifications, Bills of Quantities and Plans can be recommented from A. PERCY, Esq. M.I.C.E., orough Engineer and Surveyor, High Street Buildings, or outperformed on receipt of a bona-fide Yender, will be refunded on receipt of a bona-fide Yender, will be refunded on receipt of a bona-fide Yender, the 11th APRIL, 1960. Tenders and Plans. The documents will be available to the 1th APRIL, 1960. Tenders and priced Bills of Quantities should be eturned, in the envelope provided, so as to reach the Town Clerk, Town Hall, Huddersfield, not later and 10 am. on MONDAY, 2nd May, 1960.

The Corporation do not bind themselves to accept the lowest of any Tender.

HARRY BANN, Town Clerk

Town Hall.
Huddersfield.
March, 1960.

COUNTY BOROUGH OF BRIGHTON.

RE-ADVERTISEMENT.

PARKS AND GARDENS DEPARTMENT.

TENDERS are invited for the SUPPLY and ERECTION OF THREE RED CEDAR SECTIONAL BUILDINGS and Tender form obtainable from the Parks Superintendent, Moulsecomb Place, Lewes Republic Superintendent Superintend

NEWBRIDGE ROAD STORMWATER RELIEF SEWER.

Contractors desirous of TENDERING for the PROVISION and LAYING of a STORMWATER RELIEF
SEWER, comprising of approx. 350yd. 18in., 21in.
and 24in. dia. Precast Concrete Pipes, and the Construction of Brick and Precast Concrete Manholes, as
well as the Construction of a Stormwater Overflow
Chamber, should submit their names to the City and
\$2.2s. deposit, not later than the 16th APRIL. 1960.
The Specification, Bill of Quantities, Plans, General
Conditions and Form of Tender will be issued on
or after the 18th APRIL. 1960, and Tenders must
be delivered to the Town Clerk, in the envelope
May, 1960.
The Corporation do not bind themselves to accept
the lowest or any Tender.

JARED E. DIXON.

Guildhali.

CITY OF BAT

HARRY BANN, Town Clark

W. O. DODD, Town Clerk.

R. E. MILLARD, Clerk of the County Council.

CONTRACTS

HARROW ROAD, A.404.

DEADMAN'S HILL, WEMBLEY.

TENDERS are invited for the RECONSTRUCTION and WIDENING of DEADMAN'S HILL. Wembley. The total length of the works is approx. 360yd, and it is proposed to construct 180yd, of Dual 24ft. Carriageways, with additional lengths of 80yd, and 100yd for Tapering to 30ft. wide Single Carriageway at each end.

for Tapering and the state of t

prainage. Kerping, Footways, and other anciliary works.
Contract documents can be obtained and Plains examined, at the Offices of the County Engineer and Surveyor, Middlesex House, 20 Vauxhall Bridge Road, Westminster, S.W.1, upon deposit of £10, which is returnable on submission of a bons-rider forcer. In an expense of the county council does not bind itself to accept the lowest or any Tender.

KENNETH GOODACRE. Clerk of the County Council.

The Guildhall. Westminster, S.W.1.

BOROUGH OF TAUNTON.

CLATWORTHY SCHEME.

KINGSTON SERVICE RESERVOIR.

CONTRACT NO. 10.

TENDERS are invited from experienced contractors for the CONSTRUCTION of a REINFORCED CONCRETE COVERED SERVICE RESERVOIR with EARTHEN EMBANKMENTS to contain 300,000 gail, and other ancillary works in connection therewith, at KINGSTON, about 3 miles north of Taunton.

Copies of the Specification, Bill of Quantities and Form of Tender may his obtained from the Engineers, Messrs, ROFE as, Westminster, S.W.1. upon payment that cheque only) of Two Guineas deposit, which will be repaid upon the receipt of a bona-fide Tender and the return of all documents and Drawings supplied.

The Contract Drawings may he inspected at the Office of the Engineers, or at the Office of the Materworks Engineer, Flook House, Taunton, the Profits will be supplied by the Engineers on receipt of an application by intending contractors, accompanied by payment of 2.6 per print, and undertaking to return same. Such payment will not be returnable, and must not be included in the Two Guineas deposit. Tenders, in plain sealed envelopes, endorsed "Tender Contract No. 10," to he sent to the undersland of Contract No. 10, to he sent to the undersland of the Council does not bind itself to accept the lowest of any Tender.

K. A. HORNE,

K. A. HORNE, Town Clerk

BRIERLEY HILL URBAN DISTRICT

ASSEMBLY HALL.

CIVIL BUILDINGS-PHASE 3.

The Council propose to invite TENDERS from selected builders for the ERECTION of a new ASSEMBLY HALL as an extension to the Civic Centre.

ASSEMBLY INALL as an extension to the Cur-controlled by the controlled by the considered Construction, and builders wishing to be considered should submit their names to the Architect and Housing Director, MR. J. R. MOORE, A.R.I.B.A., at the Civic Buildings, Brieriety Hill, not later than TUESDAY, 12th April. 1960, giving any references or other information likely to assist the Council in available at the Architect's Office during normal office hours.

hours.

Bills of Quantities are in course of preparation by MR. T. PEMBERTON, F.I.A.S., F.I.Arb., and these will be issued on or about 20th APRIL, 1960, to a selected number of builders, those not selected being notified at the same time.

Tenders are required by SATURDAY, 14th May, 1960.

HERBERT HEX. Clerk of the Council. 25th March, 1960.

HORNSEA URBAN DISTRICT COUNCIL. TENDERS FOR REFUSE COLLECTION VEHICLE AND TRAILER.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING:—

of the FOLLOWING:—

(1) One 18 cu. vd. Refuse Collection Vehicle.
(2) One Massey-Ferguson 35 Semi-Industral
Diesel Tractor with Massey-Ferguson 735
Loader complete with Trip Bucket. The
Council have a Ferguson Tractor to offer in
part exchange
Further detals may be obtained from the Engineer
and Surveyor, Town Hall Hornsea, Yorkshire.

For Green, in plain sealed envelopes, endorsed "ender
for deers, in plain sealed envelopes, endorsed "ender
for the Council do not bind themselves to accept the
lowest or any Tender.

J. A. DAVENPORT J. A. DAVENPORT, Clerk of the Council.

HORNSEA URBAN DISTRICT COUNCIL.

SURFACE DRESSING OF ROADS AND FOOTPATHS.

TENDERS are invited for the SURFACE DRESSING with HOT TAR and GRANITE CHIPPINGS or GRAVEL of approx. 25,978 sq. 40, of ROADS and FOOTPATHS. Documents may be obtained from the Surveyor, Town Hall, Hornsea, Yorkshire.

Tenders, endorsed "Surface Dressing," in plain sealed envelopes, to be returned to the undersigned by 12 Noon, 9th APRIL, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. DAVENPORT. Town Hall, Hornsea, Yorkshire

Walker Street, Wellington, Shropshire. 25th March, 1960.

CONTRACTS

COUNTY COUNCIL OF MIDDLESEX. CITY OF BIRMINGHAM. BUCKS. COUNTY COUNCIL. TO PUBLIC WORKS CONTRACTORS.

NEWTOWN REDEVELOPMENT AREA.

NEWTOWN REDEVELOPMENT AREA. UNIT NO. 109—SEVERAGE.

The PUBLIC WORKS COMMITTEE Invite TENDERS on a fixed-price basis for a value and measure contract for the CONSTRUCTION of approx. The CONSTRUCTION of approx. The CONSTRUCTION of ADDRESS WATER SEWERS VARYING IN SIZE FOUL and SURFACE WATER SEWERS VARYING IN SIZE FOUL AND SURFACE WATER SEWERS VARYING IN SIZE FOUL TO SURFACE WATER SEWERS VARYING IN SURFACE WATER SEWERS VARYING IN SURFACE WATER SEWERS VARYING IN SURFACE OF THE SEWERS VARYING IN SURFACE OF THE SEWERS VARYING IN SURFACE VARYING TO SURFACE VARYING VA

CITY OF BIRMINGHAM.

TO PUBLIC WORKS CONTRACTORS.

The PUBLIC WORKS COMMITTEE Invite TENDERS on a fixed-price basis for a measure and value contract for a public of CARRIAGEWAY and FOOTWAYS INTRODUCTION OF CARRIAGEWAY and FOOTWAYS INTRODUCTION OF CARRIAGEWAY AND COPIES OF THE PUBLIC OF COPIES O

City Engineer and City Enginee

Council House, Birmingham, 1 CITY OF BIRMINGHAM.

TO ELECTRICAL CONTRACTORS.

TO ELECTRICAL CONTRACTORS.

The HOUSE BUILDING COMMITTEE invite TENDERS on a fixed-price basis for the ELECTRICAL INSTALLATION in SHOPS. FLATS and MAISON-NETTES at GARRETTS GREEN ESTATE, Contract No. 630.

General Conditions (which include the Corporation's usual Fair Wages and Conditions of Labour Clause) may be inspected at the Mechanical and Public Lighting Department, 31 Cambridge Street, Birming-cambe obtained on payment of \$2 2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Ender.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office Coons and Street Size of the Coons (Line 1) and the Clerk of the Coons (Line 1) and the Coons (Line 1) and the Coons (Line 1) and the Coope (Line 1) and the Coop

OF BIRMINGHAM.

The PUBLIC WORKS COMMITTEE invite TENDERS for the SUPPLY and DELIVERY of ELECTRIC STREET LIGHTING EQUIPMENT for the 12 months' period commencing 1st May, 1960, as follows:—2.500 Cast-Iron Columns (Class "B").
2.500 Combined Lanterns and Brackets (Class "B").

4,000 Synchronous Time Switches.
500 "Keep Left" Bollards.
500 Contract. may be obtained from the contract. may be obtained from the contract.
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T. H. PARKINSON, Acting Town Clerk.

WELLINGTON (SALOP) URBAN

DOTHILL ESTATE—SECTION 1-

TENDERS will be invited shortly for the CONSTRUCTION of approx. 8.600 lin. yd. of FOUL and
STORM Y2.000 str. of the STO

R. G. RUSHEN, Clerk of the Council.

Guildhall, Bath. 28th March,

ESHER URBAN DISTRICT COUNCIL. KING GEORGE'S HALL, ESHER. PROPOSED IMPROVEMENT WORKS-CONTRACT NO. 299.

1960

Contractors wishing to TENDER for the CARRYING OUT of WORKS OF IMPROVEMENT at the ABOVE. COULD of WORKS OF IMPROVEMENT at the ABOVE. COULD of WORKS OF IMPROVEMENT at the ABOVE. COULD of Works of Works

SUPPLEMENT

CITY OF MANCHESTER. PRIVATE STREET WORKS.

TENDERS are invited for the PAVING and COMPLETING of BECCLES ROAD, Baguley—approx. 1,000 sq. yd. of Bittmen Macadam Carriageway, 1,000 sq. yd. of Asphait Sand Carpet Footpaths, and all ancillary works.

er documents, returnable by 12th APRIL, 1960, e CITY SURVEYOR, Town Hall, Manchester. From the CITY SURVEYOR, Town Hall, Manchester.

EADING estate developers operating up to 100-mile radius of London, wish to engage an additional CIVIL ENGINEERING CONTRACTOR for roads, sewers and ancillary works—Any contractors interested in work which has continuity should write. In confidence, when a personal interview will be arranged, to Box X.1581, "The Contract Journal."

ESTIMATES WANTED for Excavations, Roads, Sewers, Pipe Mains, General Civil Works. Building, Conversions, should the PREPARED by Britain's Top Free-lance Estimator, R. J. CARR, 42 Coombe Road, New Malden, Surrey, Malden 8640.

For Contracts received too late for classification see page 1653

APPOINTMENTS VACANT

WEST SUSSEX COUNTY COUNCIL. COUNTY SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENT on the permanent staff of an ASSISTANT ENGINEER, A.P.T. IV (£1,065.£1,220).

Candidates must be Associate Members of the Ministry of Members of the Members of the Members of Municipal Engineers, and have had considerable experience in the preparation of highway Improvement schemes, together with supervision of works. Experience of bridge work would be an advantage. Initially the successful candidate will be seconded highway construction in the New Town, after which he will be engaged on major improvement projects in West Sussex.

Application forms may be obtained from the County Surveyor, County Hall, Chichester, and must be repaired in the Members of Members Surveyor, County Hall, Chichester, and must be repaired in the Members of Membe

APPOINTMENT OF ASSISTANT ARCHITECT.

APPOINTMENT OF ASSISTANT ARCHITECT.

Salary Grade A.P.T. I (£610-£765). Commencing salary according to qualifications and experience.

N.I.C. Service Conditions; superannuable terminable on any month's notice either side.

Applicants should have passed the Intermediate R.I.B.A. Examination or its equivalent at one of the recognised schools of architecture.

Equivalent at one of the recognised schools of architecture, equivalent at one of the recognised schools of architecture, equivalent at one of the recognised schools of architecture, equivalent to pass satisfactorily a medical examination.

If required, housing accommodation will be provided for the successful married applicant.

Applications, on forms obtainable from me, to be returned by the 9th APRIL, 1960.

Canvassing disqualifies.

ERNEST HUTCHINSON, Town Clerk.

BOROUGH OF CASTLEFORD. APPOINTMENT OF SENIOR ASSISTANT

Salary—Special Grade (£785-£1,070); commencing salary according to qualifications and experience. N.J.C. Service Conditions; superannuable; terminable on one month's notice either side.

Applicants should be Corporate Members of the Institution of Municipal and/or Civil Engineers, and Engineer's Office.

The successful applicant will be required to pass satisfactorily a medical examination. If required, housing accommodation will be provided for the successful married applicant. If the successful married applicant. Canada and the successful married applicant. ENREST HUTCHINSON, ENNEST HUTCHINSON, ENNEST HUTCHINSON, Town Clerk.

Town Hall, Castleford.

HAWARDEN RURAL DISTRICT

APPOINTMENT OF RESIDENT ENGINEER.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of an experienced RESIDENT ENGINEER to supervise the construction of certain sewerage works within the councils area. Applicants must be able to give levels, or a supervise the construction of certain sewerage works within the produce reports and details required by the Surveyor The salary will be £1,000 per annum plus travelling expenses on essential user's scale. The appointment is for a minimum of 12 months and will be terminable by ame month's notice in writing.

Applications, endorsed "Resident Engineer," giving age, full details of previous experience, and date when swalable, together with the names of two preceived not later than the 16th APRIL, 1960. be received not later than the 16th APRIL, 1960.

Council Offices,

Council Offices, Hawarden. 24th March, 1960.

UPPER WITHAM INTERNAL DRAINAGE

GENERAL FOREMAN

GENERAL FOREMAN.

APPLICATIONS are invited for the ABOVE POSITION, duties to include the supervision of drain maintenance works by direct labour and contract within the Board's area of 44,000 acres, together with inspection of land drainage pumping stations and control structures. 22 per week will be paid, and previous experience on land drainage works would be an advantage. Transport will be provided by the Board, and the success'ul applicant will be required to reside in or near Lincoln.

Application Forms are available from the undersigned, and must be completed and returned not later than MONDAY, 11th April, 1960.

1. BARNATT, A.M.I.C.E..

Engineer to the Board.

20 Orchard Street,

APPOINTMENTS VACANT

COUNTY BOROUGH OF GRIMSBY. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

ENGINEERING ASSISTANTS.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS on the PERMANENT STAFF of the Department:

APPOINTMENTS on the PERMANENT STAFF of the Department:

(a) One Engineering Assistant, Special Grade (£785-£1.070 p.a.).

(b) One Engineering Assistant, Grade A.P.T. II £765-£880 p.a.). subject to the Conditions of Service of the National Joint Council, terminable by one month's notice on either side, and to the provisions of the Local Government Superannuation Acts. The successful candidates will be required to pass a medical examination. Applications, stating age, qualifications, present and Applications, stating age, qualifications, present and the provision of the undersigned not later than First Post on MONDAY, the 11th April, 1960.

J. V. OLDFIELD, M.Inst.C.E., Municipal Office Borough Engineer and Surveyor.

Municipal Offices,
Town Hall Square,
Grimsby,
March, 1960.

BURGH O

OF GRANGEMOUTH. ENGINEERING ASSISTANT.

APPLICATIONS are invited for the UNESTABLISHED POST of ENGINEERING ASSISTANT in the Burgh Engineer's Department. Grangemouth, on the Salary Scale £805-£915, with placing according to age and experience.

Applicants should have completed their training and had some general engineering experience. Applications, stating age, qualification, and particulars of experience, together with the names of two referees, should bis returned to the undersigned not later than MONDAY. 26th March, 1957ON, W. BRYCE JOHNSTON, Municipal Chambers.

Municipal Chambers, Grangemouth. 16th March, 1960. BOROUGHOF SURBITON. APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE PERMANENT APPOINTMENT in the Borough Engineer and Surveyor's Department. Salary Grade APT. 1 (6640-6795, including London Weighting), Commencing salary within this grade will be fixed in the light of the successful applicant's experience and qualifications.

light of the successful applicant's experience and qualifications should be members of the Institute of Applicant should be members of the Institute of Applicant works, and have had considerable experience in the supervision of both building and road and sewer construction. The appointment is subject to a medical examination, the Local Government Superannuation Acts, and the National Scheme or Conditions of Service. Or a car not exceeding 10-h.p., or 1,199 c.c., will be paid. Application forms, which may be obtained from the undersigned, should be returned to MR. R. THIRLWAY, M.I.Mun.E., M.I.Struct.E., Registered Architect. Borough Engineer and Surveyor, not later than 19th APRIL, 1960.

Council Offices,

Council Offices, Surbiton. O F PLYMOUTH. APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

(i) Junior Assistant Engineers—Three vacancies in A.P.T. If/Special Grade.

(ii) Chief Draughtsman—A.P.T. I. Applicants for (i) should have completed approved training. The according of the complete approved to should be completed approved and applicants for (ii) must be Draughtsmen experienced in the work of a busy Municipal Engineer's Office. Capable of controlling draughting staff and maintaining recording the controlling accommodation may be available in certain circumstances.

Housing accommodation may be available in certain circumstances.

The Guildhall,

NEWCASTLE REGIONAL HOSPITAL

SPECIAL AREA COMMITTEE FOR CUMBERLAND AND NORTH WESTMORLAND. GARLANDS HOSPITAL, CARLISLE.

PROPOSED ADMISSION HOSPITAL AND TWO CONVALESCENT VILLAS APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT OF CLERK OF WORKS for the building of a new 100-bed admission hospital and two 40-bed convalescent villas, at a cost of about £300.000.

Applicants should have had previous experience as clerks of Works for the construction of building to the construction of building to the construction of building to the construction of building industry. They should possess a thorough knowledge of building construction, site organisation and the work of specialist trades, and should be able to measure executed work against Bills of Quarties buildings will be drawn from the main hospital building building the shouldings will be drawn from the main hospital boiler plant, experience of duct work and engineering mains installations is desirable offered is £15 15s, per week, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, but the scales are being reviewed on a national basis, or the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, or the scales are being reviewed on a national basis, or the scales are being reviewed on a national basis, or the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, and the scales are being reviewed on a national basis, and the scales are

APPOINTMENTS VACANT

COUNTY OF LINCOLN—PARTS OF

GREAT NORTH ROAD, A.1-GRANTHAM BY-PASS. TEMPORARY CLERK OF WORKS.

APPLICATIONS are invited for the FOLLOWING TEMPORARY APPOINTMENT, expected to last for a period and the state of the state

METROPOLITAN BOROUGH OF

ESTIMATOR REQUIRED for Direct Labour Building Section (new works), with ability to carry out building section (new works), with ability to carry out building stands and sections of the section of the section of the section of incentive bonus schemasting and allocation of the section of able from TOWN E.2, to whom com 9th APRIL, 1960.

BOROUGH OF GUILDFORD BOROUGH ENGINEER AND SURVEYOR'S

APPLICATIONS are invited for the APPOINTMENT of SENIOR ENGINEERING ASSISTANT, Special Grade (£785-£1,070). Starting salary will be decided from qualifications and experience. Preference will be given to applicants who have passed the Testamur of the who have considerable Experiences in general municipal or civil engineering. Applications, with the names and addresses of two referees, must be sent to the Borough Engineer and Surveyor, Municipal Offices, High Street, Guildford, My MONDAY, 11th APPLICATION FERBERT C. WELLER, Town Clerk.

BOROUGH OF HESTON AND

ENGINEER AND SURVEYOR'S DEPARTMENT. APPOINTMENT OF ENGINEERING ASSISTANT

APPLICATIONS are invited for ENGINEERING ASSISTANT (LICHTING) at a salary in accordance with Grade A.P.T. III of the National Scale (Ease of the National Schemes for Group (Ease of the National Schemes) and Group (Ease of the National Scheme (Ease of the National Scheme) (Ease of the Nat

Town Hall, Hounslow, Middx. DEVIZES RURAL DISTRICT COUNCIL. SEWERAGE SCHEMES

RESIDENT ENGINEER.

RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of RESIDENT ENGINEER to supervise, under the direction of the Council's Consulting Engineers, the construction of sewers, sewage disposal works and small pumping stations, in connection with schemes carrying out, within the next few years.

Applicants should have had extensive experience in this class of work.

Salary is £1,100 per annum and the successful applicant will be required to provide a car, for which an allowance on the National Scale will be paid by the part of the

using accommodation available if required.

JOHN SPENCER.

Clerk of the Council.

Council Offices,
Browfort,
Devizes, Wilts,
21st March, 1960.

C U M B E R N A U L D
CORPORATION.

BRIDGES ENGINEER.

BRIDGES ENGINEER.

The Corontation REQUIRE an ASSISTANT ENG-NEER (Grade B), on Scale A.P.T. V/VI (£1,220-£1,390), within the Engineering Section (Chief Engineer: A. K. GIBBS, D.P.A., A.M.I.C.E., A.M.I.Mun.E. A.M.T.P.I.) of the Chief Architect and Planning Officer's Department.

The Corontation have an intensive programme of road construction, including a number of multi-level junctions involving bridge structures of multi-level junctions involving bridge structures.

Local Government superannuation, subject to medical examination.

Assistance with housing may be given in an appropriate case.

Five-day week.

Forms of application may be obtained from the GENERAL MANAGER, Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld GWNDNDAY, 18th April, 1960.

GWYNEDD RIVER BOARD.

JUNIOR ENGINEERING ASSISTANT. SALARY

JUNIOR ENGINEERING ASSISTANT. SALARY A.P.T. I (£610-£765).

APPLICATIONS invited for the ABOVE-MENTIONED APPOINTMENT in the Engineer's Department. Application Form and further particulars from CLERK OF THE BOARD, Highfield, Caernarvon. Closing date: 11th APRIL, 1950.

APPOINTMENTS VACANT

COUNTY BOROUGH OF HUDDERSFIELD. BOROUGH ENGINEER AND SURVEYOR'S

APPLICATIONS are invited for ASSISTANT ENGINEERS at a salary in accordance with Grade A.P.T. IV (£1,065-£1,220 per annum), for work on roads, sewage works extensions, and en general municipal engineering work. Applicants should be be associate members of the Institution of UCE Engineers or the Institution of Municipal Engineers or the Institution of the Engineers of of the Engine

will be accommodation may be supplied accommodation may be supplied accommodation. Applications, giving age, experience, and the names of not more than three referees, should reach A. PERCY, M.I.C.E. Borough Engineer and Surveyor, High Street Buildings, Huddersheid, not later than WEDNESDAY, the 20th April, 1967. BANN. HARRY BANN. Town Clerk.

Town Hall, Huddersheld, 1960.

COUNTY BOROUGH OF EAST HAM. SENIOR ASSISTANT ENGINEER (GENERAL), GRADE III, £880-£1,065.

London Weighting is paid in addition. Salary in excess of the minimum may be paid, according to qualifications and experience.

A subsistence allowance may be granted over a reasonable period to the person appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes. Further details and application me, returnable by 15th Artil., 1960, from the TOWN CLERK, Town Hall, E.S.

METROPOLITAN BOROUGH OF

APPOINTMENT OF THREE ASSISTANT ENGINEERS.

APPLICATIONS are invited from suitably qualified risons for the FOLLOWING PERMANENT APPOINT-ENTS, within A.P.T. Grade III (£880 to £1.065, us London Weighting):—

(i) To undertake general municipal engineering and, in particular, a survey of all the control of the control of the control of the control of the council's electrical and mechanical equipment.

(ii) To undertake, in conjunction with a senior assistant, the maintenance of all the Council's electrical and mechanical equipment.

(iii) To undertake the design and detailing of the council of the cou

Application forms obtainable from the BOROUGH ENGINEER AND SURVEYOR, Town Hall, Battersea, S.W.11, and returnable by 25th APRIL, 1960.

METROPOLITAN BOROUGH

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited from persons not more than 50 years of ase for the FOLLOWING APPOINTMENTS on the permanent staff:

(a) Three Senior Architectural Assistants, Grade A.P.T. IV (£1,220-£1,375 p.a.).

(b) Two Architectural Assistants, Grade A.P.T. III (£880-£1,065 p.a.).

(c) One Junior Architectural Assistant, Grade A.P.T. IV (£1,055-£1,220 p.a.).

(d) Three Engineering Assistants, Grade A.P.T. IV (£1,055-£1,220 p.a.).

(e) One Surveying Assistant, Grade A.P.T. III (£880-£1,065 p.a.).

(f) One Technical Assistant, Grade A.P.T. III (£880-£1,065 p.a.).

Application of the Albert of the R.I.B. Associate Members of the Associate Members of the R.I.B. Associate Members of the R.I

OF EALING. BOROUGH

ENGINEERING ASSISTANT—Salary within Scale £785-£1,070 plus London Weighting, according to experience and qualifications.
Candidates must have passed recognised final examination, be a Graduate Member of the institution have had at least two years experience, and have had at least two years perience, including the period spent on theoretical training. No housing accommodation is offered with this post, but generous help with removal expenses will be given to successful applicant.
Full particulars and Application Form from Borough Surveyor, Town Hall, Ealing, W.S.
Closing date: 18th APRIL, 1950.

E. J. COPE-BROWN.
Town Hall,

Town Hall, Ealing, W.S.

BOROUGH OF BEXLEY.

HIGHWAYS SUPERINTENDENT.

APPLICATIONS are invited for this APPOINTMENT at a salary within Grade A.P.T. III (£880-£1.065 per annum), plus London Weighting. An essential user an allowance (not exceeding 10-h.p. or 1199 c.c.)

Candidates should be suitably qualified and have considerable experience in the maintenance and construction of highways and sewers, street cleansing and control of workmen. Experience in maintenance of street lighting will be an advantage.

of street ighting will be an advantage of street in a polication and conditions of or appointment of application and conditions of street in a polication and conditions of appointment of applications and conditions of appointment of applications must be returned by 11th APRIL, 1960. Canvassing will disqualify.

PARBER-GREENE OPERATOR, work 50 miles' radius

BARBER-GREENE OPERATOR, work 50 miles' radius Liverpool. — Write Box K.690, LEE AND NIGHTINGALE, LTD., Liverpool.

APPOINTMENTS VACANT

ACCRINGTON CORPORATION. CLERK OF WORKS (ROADS AND SEWERS).

APPLICATIONS are invited for the POST of CLERK OF WORKS in the Borough Engineer's Department, to supervise a Contract of £40,000 at the Huncoat Industrial Estate.

Candidates should have considerable experience of Candidates should have considerable experience of Candidates should have considerable experience of the Candidates of Service.

Applications, with details of age, qualifications, Town Hall, Accrington of two referees to me at the Town Hall, Accrington of two referees to me at the Town Hall, Accrington of the Candidates of Candidates of Candidates of Candidates of Candidates of the Candidat

JACK GARTSIDE, Town Clerk.

SITE ENGINEERS REQUIRED for major London and provincial civil engineering contracts.—Write Box V.1396, "The Contract Journal."

A SSISTANT ENGINEER for work in connection with site investigations and soll mechanics laboratory, REQUIRED immediately by consulting engineers. F. R. BULLEN AND PARTNERS, Dacre House, Dean Farrar Street, London, S.W.1.

PARTAY Street, London, S.W.1.

AGRE CONSTRUCTION CO., LTD. — SENIOR BUILDING AND CIVIL ENGINEERING ESTIMATOR REQUIRED to work at Scuntborpe head office. Applicants required to have had previous experience as head of estimating department. Salary commensurate with experience and qualifications. —Write, stating previous experience, and salary required, to the Eagre Construction Co., Ltd., East Common Lane, Scuntborpe.

Scunthorpe.

SECTION FOREMEN REQUIRED for civil engineering contracts in various parts of U.K. Excellent
prospects for men of experience and energy.—Apply
in writing to THE DEMOLITION AND CONSTRUCTION CO., LTD., Civil Engineering Department, 3
St. James's Square, London, S.W.1, giving age and
brief details of experience.

SIR ALFRED McALPINE AND SON, LTD.

REQUIRE SITE ENGINEERS between 20 and 30 years of age, of graduate status or with a minimum withree years' site experience, for railway terminal, factory and multi-storey contracts in the Birmingham area. Permanent appointment with superannuation scheme for right applicants. Apply:

SIR ALFRED McALPINE AND SON, LTD., 49 Waterloo Road, Wolverhampton.

CIVIL ENGINEER. — Young, keen Engineer RE-QUIRED for contract on the coast mid-Wales, near famous holiday centre. Experienced als setting-out, and opportunity to increase knowledge of piling, reinforced concrete and tidal conditions. Excellent prospects for promotion and long service. — Written applications should state training and experience to Box V.1542, "The Contract Journal."

Box V.1542, "The Contract Journal."

GENERAL FOREMAN REQUIRED to take charge of civil engineering sewerage contract in Abervstwyth area. Experienced in tidal and pilling work and reinforced concrete essential. Very good terms will be offered suitable man, with a continuity of work Write, stating full details of past similar experience to Box V.1545, "The Contract Journal."

EXPANDING FIRM of civil engineering contractors REQUIRES GENERAL FOREMEN to take complete charge of medium-sized contracts in Southern England. Excellent terms and prospects for experienced mer. — Write, with full details, to Box V.1540, "The Contract journal."

The Contract Journal."

Tolyong Civil Engineer REQUIRED. The work is interesting and varied, and duties will include setting-oit, preparation of drawings and assistance in preplanning. A knowledge of reinforced assistance in preplanning. A knowledge of reinforced to the property of the

A SSISTANT AREA MANAGER REQUIRED for general road works. Southern Area. Knowledge and experience of surfacing, estimating and supervision of contracts. Permanent position. Staff pension scheme, etc.—Write, giving age, details, and salary required, to Box V.1525, "The Contract Journal."

A. MONK AND CO., LTD.

REQUIRE the services of experienced QUANTITY SURVEYORS for major civil engineering and building contracts in the South-West Midlands, and for works administered from regional offices at London, Hull, Middlesbrough and Stamford (Lincs.). Salary according to abe, experience and qualifications. Superannuation scheme in operation. Please reply, stating age, previous experience, and salary required, to the Chief Surveyor at the company's Head Office at Padgate, Warrington, Lancs. Replies will be treated in confidence.

A. MONK AND CO., LTD., Padgate, Warrington, Lancs.

ASSISTANT TO PLANT MANAGER WANTED by London plant hire company. Good prospects for successful applicant.—Write, giving full details, to Sox V.1323, "The Contract Journal."

ASSISTANT QUANTITY SURVEYORS for general road works, Southern Area. Experienced in site measuring and final bills. Good progressive positions. Staff pension scheme, etc.—Write, giving age, experience, and salary required, to Bux V.1326, "The Contract Journal."

Contract Journal."

LANT HRE.— Nationally known organisation REQUIRES men with brains and plant experience recommendations as REPRESENTATIVES and DEPOT MANAGERS. Age group 25-40. A combined knowledge of contracting, plant in general, and the commercial aspect of the business would be desirable, but not essential. Replies will be treated in strict confidence and given every consideration.—Write Box V.1463. The Contract Journal.

V.1453, "The Contract Journal."

SENIOR ASSISTANT CIVIL ENGINEER REQUIRED by contractors, for work in North-West Scotland. Good prospects.—Details of experience and salary required to Box V.1495, "The Contract Journal."

CIVIL ENGINEERING contractors REQUIRE AGENT for contract in the Western Highlands. Good salary offered, with car and bonus.—Write particulars of experience, with references, to Box V.1496, "The Contract Journal."

APPOINTMENTS VACANT

F. J. C. LILLEY (CONTRACTORS). LTD., have vacancies for JUNIOR and SENIOR CIVIL ENGINEERS on tunnel contracts in London and Blackpool. Application should be made to the Assistant General Manager, Great Cambridge Road, By Church Street, London, N.9.

AGENT. FOREMEN and GANGERS REQUIRED for Civil engineering contracts in the North-West Warrington base). Must be prepared to travel. Write full details of previous experience, and salary required, to Box V.1512, "The Contract Journal."

STITE ENGINEERS REQUIRED for roads, suvers and pridge contracts. Must be capable of supervising contracts, instrument work, measurements and valuations. These are progressive posts with salary according to qualifications and experience.—Applications in Street, Birmingham, AND DOWD, LTD., Buttin Street, Birmingham, Contract of the co

Street, Birmingham, 7.

THE NORWEST CONSTRUCTION CO., LTD.,
REQUIRE a fully experienced time-served FITTER
for the GUIRE a fully experienced time-served FITTER
for the Guire and Experience of the Street
shops are completely new and equipped with the most
modern and up-to-date facilities. Applicants should be
familiar with all types of modern civil engineering
joint. First-class working conditions exist: a canteen
is evaluable, and there is opportunity or high bound
is evaluable, and there is opportunity or high bound
Construction Co., Ltd., Ruthven Road, Litherland,
Liverpool, 21 (marked for the attention of the Plant
Manager).

MARTIN COWLEY, LTD.

Applications are invited from fully qualified and experienced personnel to fill the following vacancies on contracts throughout the United Kingdom: PROJECT MANAGERS SENIOR AGENTS SUIVED FROM THE CONTRACT OF THE CONTRACT ON THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT ON THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT ON THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT ON THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT ON

MARTIN COWLEY, LTD., 112 Jermyn Street, London, S.W.1.

SENIOR and JUNIOR ENGINEERS and MEASURING SURVEYORS are REQUIRED for building contracts in England. These are permanent appointments with good prospects. Bonus and superanuation schemes in operation.—Applications, which will be dealt with in strict confidence, must give details of age, experience, qualifications, and salary required, and should be addressed to Personnel Officer TARMAC CIVIL. ENGINEERING, LIMITED, Ettingshall, Wolverhampton.

SENIOR QUANTITY SURVEYOR REQUIRED for head office appointment. Applicants must have extensive experience in civil engineering and building construction work. Salary commensurate with experience: bonus and superannuation scheme in operation. Applications should be addressed to Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

POIVERNAMENT.

ENGINEER AGENT REQUIRED for large drainage contract in North-East. Applicant must have extensive experience of similar work in difficult ground conditions involving steel sheet piling and Welipoint dewatering. A substantial salary will be paid to main with requisite qualifications, and position is permanent. Write, with full details, to Box V.1497, "The Contract Journal."

SENIOR and ASSISTANT BUILDING SURVEYORS.
REQUIRED in the London, Home Counties and Southern Counties areas. These positions are permanent, progressive and superannuated.—Write, giving full details experience, age, salary required, and area PARKINSON the Chief Surveyor, SIR LINDSAY PARKINSON AND CO., LTD., 5 Lambeth Road

VOUNG ENGINEER/AGENT REQUIRED by civil engineering contractors mainly operating in the Hants. Berks and Oxon areas. Permanent and progressive superanuation repeated aperation. Write in confidence, tating age, full details of experience, and salary, required, to Box V.1472, "The Contract Journal."

SENIOR SITE AGENTS.

SIR LINDSAY PARKINSON AND CO., LTD., invite applications for the above positions. Applicants, who must be fully experienced in carrying out major building contracts of all types, should forward all details to:

Building Director, SIR LINDSAY PARKINSON AND CO., LTD., 6 Lambeth Road, London, S.E.1.

ROBERT M. DOUGLAS (CONTRACTORS), LTD.,
REQUIRE DESIGNERS immediately for work on
multi-storey concrete structures.—Apply, giving age
full details of experience, and salary required, to 395
George Road, Birmingham, 23.

[VIVIL ENGINEER REQUIRED by British
to act as Deputy to the Chief Engineer on important
harbour and road construction projects in West Africa.
Write brief details age, and experience, to Box C1160,
LP.E., Romano House, 399/401 Strand, London,
W.C.Z.

L.P.E. Romano House, 399/401 Strand, London, W.C.2.

ASSISTANT CIVIL ENGINEERS REQUIRED for civil engineering and building contracts. Permanent appointments with excellent opportunities for advancement. Good salary and conditions and entry into superannuation scheme after 12 months' service. Applications, which will be treated in strictest confidence to The MITTLE CANSTRUCTION CO. LTD., Wharf Works, Peterborough.

EXPERIENCED and TRAINEE OFFICE MANAGERS REQUIRED for building and civil engineering contracts. Must be willing to travel. Excellent prospects for mind the strict of the str

EXPERIENCED and TRAINEE TIMEKEEPERS, COST CLERKS and BONUS CLERKS REQUIRED by prominent firm of building and cities required for tractors in North-West Cost and cost of tractors in North-West Cost of tractors are to make puress.—Details of experience and age to Box V-1535, "The Contract journal."

APPOINTMENTS VACANT

SUPPLEMENT

SANITARY ENGINEERING DRAUGHTSMAN/
DESIGNER REQUIRED by Maytair consulting civil
engineers, with three years' drawing office experience
of all types of plumbing and drainage systems to
large civil engineering projects, 5-day week. Pension
and like assurance scheme. Holiday arrangements
honoured.—Write, giving age, qualifications, experience, and salary required, to BRIAN COLQUHOUN
AND PARTNERS, 18 Upper Grosvenor Street, London,
W.1.

W.1.

CHIEF ESTIMATOR REQUIRED for expanding company in the metal window industry. Able to control staff. Good salary, excellent working conditions, superannuation scheme. — Write, stating age and all details of experience, etc., to Box V.1528, "The Contract Journal."

CONTRACTS MANAGER, age 40/50, REQUIRED in rapidly expanding company in the metal window industry. Experience in this trade preferred, but not the state of the st

Journal."

AND C. FRENCH, LTD., Civil Engineering and
Building Contractors, REQUIRE an ESTIMATOR,
Case, with experience of preparing tenders on bills
of quantities for various types of work. Based on
depot offices at Coichester, Essex.—Apply in writing,
stating age, experience, and salary required, to
Personnel Manager, 50 Epping New Road, Buckhurst
Hill, Essex, and quoting Ref. No. 609.

Hill, Essex, and quoting Ref. No. 609.

W AND C. FRENCH, LTD., Civil Engineering and Building Contractors, REQUIRE an ESTIMATOR, State of the Contractors of the Contractors of the Contractors, with experience of preparing civil engineering orork, Based on head office at Buckhurst Hill, Essex, Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, and quoting Ref. No. 610.

ESTIMATOR REQUIRED

in Estimating Department of national builder's modern office in West Middlesex. Applicants should have had some previous experience in estimating, mainly for housing estates, and also surveying experience, including taking-off and preparing bills of quantities. Progressive and permanent appointment is offered, with ample prospects for promotion.—Full particulars

BOX V.1571, "THE CONTRACT IOURNAL."

SENIOR ASSISTANT REQUIRED, experienced in preparing bills of quantities and settling find accounts for all kinds of mechanical and/or electrical services installations in buildings.—Write to REYNOLDS AND YOUNG, Chartered Quantity surveyors, 329 High Holborn, London, W.C.1, stating age, experience, and salary requires.

Progineer, surveyor REQUIRED by progressive company of bulk excavation contractors.—Apolications in writing, stating age, experience, and salary required, to COFF AND SON (EXCAVATIONS), LTD., Buckhurst Hill, Cheapside, Ascot. Tel.: Ascot 1026/7/8.

AGENT REQUIRED for large excavation and bridge contract in Leicestershire. Opportunity to obtain permanent position in civil engineering section of national firm of contractors. Superannuation and profit-sharing scheme in operation.—Application form from Director, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD., Banner Cross Hall, Sheffield, 11.

ENGINEERING), LTD., Banner Cross Hall, Shemeld, 11.

TRANSPORT MANAGER REQUIRED for small mixed fleet, A-licence, 70-80 tons. Young, experienced man able to control drivers, find work and negotiate, Good salary, bonus and directorship to right man not alraid of the state of the

CHIEF CIVIL ENGINEER

A large contracting organisation in process of expansion has a vacancy for the post of CHIEF CIVIL ENGINEER. Applicants must be fully experienced and have a knowledge of economic civil engineering design oall recognised standards, together with the ability to lead and guide a team of civil and structural engineers and the associated drawing office. They should also be capable contract negotiators. The appointment, which is permanent, carries a salary of up to £2,500 p.a. and is pensionable.—Write:

BOX V.1532, "THE CONTRACT JOURNAL."

NUCLEAR CIVIL CONSTRUCTORS, Trawsfynydd, Morth Wales, Nuclear Civil Constructors, REQUIRE the services of a SENIOR ENGINEER to develop and operate their precast concrete factory on the above site. — Replies, stating experienced, and salary required, to be addressed to Mr. T. J. Winter, Business Manager, Nuclear Civil Constructors, Nuclear Cluear Power Station, Trawsfynydd, North Wales.

Bullders Quantity Surveyor ReQuireD. Must be experienced and energetic. Able to drive. Excellent salary and prospects for really capable man. — Write particulars of age. experience, and present emoluments, to Box V.1546, "The Contract Cutter Englishers Peaulife Descriptions of the Contract Cutter Englishers."

STE ENGINEERS REQUIRED by leading firm of building and civil engineering contractors. Must be good instrument men. South of England locations. Write, giving details of age, experience, etc., to Box V.1544, "The Contract Journal."

CONTRACT SUPERVISOR REQUIRED for surfacing work, South Midlands. Must be capable control of labour, plant, measuring, ordering. Car provided. Permanent position.—THE DRYBROOK QUARRIES, LTD., 106 Gold Street, Wellingborough.

TECHNICAL SALES ASSISTANT REQUIRED by well-known firm engaged in operating a large fleet of lorry-mounted cranes. Must be well educated, experienced in handling inquiries, quotations, programming and maintenance of record etc. educated to represent the company at all levels, and develop the business. Age 25-35. Resident in Birmingham area, or prepared to work in that area. Good salary with early increases, according to ability.—Reply, stating details of experience, education, salary required, etc., to Box V.1556, "The Contract Journal."

DESIGN ENGINEERS and DRAUGHTSMEN REJOURGAL OUTSED for extensive reinforced concrete heavy experience, etc., to Box V.1545, "The Contract Journal."

APPOINTMENTS VACANT

Estamator Required for a medium-sized, well-established Birmingham building company. Salary commensurate with experience. Prospects good. Staff pension scheme. Bonus and service bonus.—Write, stating age, experience, and salary required, to Box V.1537, "The Contract journal."

stating age, experience, and salary required, to Box V.1537. "The Contract Journal."

ASSISTANT QUANTITY SURVEYOR. — The civil engineering department of THE STEEL COMPANY OF WALES, LTD., REQUIRES an Assistant Quantity Surveyor for work on civil, structural and building projects, His duties will include taking-off, abstracting, and billing quantities in accordance with "The Standard Method of Measurement of Civil English of the Company of Wales, Ltd. (Steel Division), Abbey Works, Port Talbot, Glam.

CUBITTS.

The Chief Civil Engineer REQUIRES a qualified SENIOR ASSISTANT ENGINEER with wide contracting experience in heavy civil engineering, for work at head office on construction methods study and planning of all types of civil engineering work at home and overseas.—Please send full details, in confidence, to:

Personnel Manager,
HOLLAND & HANNEN AND CUBITTS
(GREAT BRITAIN), LTD.,
1 Queen Anne's Gate, London, S.W.1

London. Must be apprentice trained and experienced in the field maintenance and repair of heavy civil engineering plant. Qualified to assist in the control of all departments in the depot and visit contracts in the U.K. Age not over 35. Salary in accordance with experience.—Write, with full particulars, to Box A.A.364, "The Contract Journal."

A GENT REQUIRED for major bridge project in the U.K. Must be qualified engineer with experience as contractor's agent on civil engineering worst exceeding £1m. in value. Applicants should have considerable experience of prestressed concrete. First-class prospects in expanding organisation. Salary by negotiation, but not less than £3,300 per minding to U." Base C.1,188 PE, Romano House, 399-401 Strand, London, W.C.2.

Strand, London, W.C.2.

SOUTH COAST, WEST SUSSEX: Firm of building and civil engineering contractors REQUIRE the services of a SENIOR SECRETARY-SHORTHAND-TYPIST, also a fully experienced BOOK-KEEPER and COSTS CLERK. Housing accommodation could available. State full details, and only persons whose credentials can bear thorough investigation need apply. Write Box V-1557, "The Contract Journal."

ENGINEER/AGENT REQUIRED for large water main contract in Leek area. Applicant must have extensive experience in similar work. Including will be paid to man with requisite qualifications. J. ASHMORE (CONTRACTORS), LTD., Tipton Road. Dudley.

Dudley.

YOUNG ASSISTANT ENGINEER REQUIRED for work in London area, with small but expanding this permanent position offers very wide experience of all stages or civil and building contract of student or graduate, with good prospects for advancement.—Write Box V.1560, "The Contract Journal."

THE UNIT CONSTRUCTION CO., LTD.

REQUIRE a BUILDING MANAGER for a tour, in the first instance, of three years in British West Indies, in connection with a housing contract of considerable size to be carried out in Trinidad. Candidates should be not more than 45, have a successful record, and be in first-class health. Previous experience in B.W.I. an advantage. The appointment carries a good salary, generous overseas allowance, free furnished housing, a car, free passage both ways, and three months paid leave at end of tour.—Apply by letter only, giving details of age, qualifications and experience, to:

The Personnel Director,
UNIT CONSTRUCTION CO., LTD.,
Central Way, Faggs Road, Feltham, Middlesex.

CHIEF ENGINEER: One of the major U.K. building and civil engineering contractors have an unexpected vacancy at their kondon headquarters for a CHIEF ENGINEER, who must be an M.I.C.E. and have considered to the contract of the contract of

CONGON, W.C.Z.

SENIOR QUANTITY SURVEYORS REQUIRED by GEORGE WIMPEY AND CO., LTD., in the Manchester and Liverpool areas. Able to prepare interim valuations and control the preparation and agreement of final accounts. The positions will be pensionable, subject to satisfactory service. Good salaries and conditions.—Apply, giving full details of experience, qualifications and age, to 629 Eccles New Road, Salford, S. Lancs.

Road, Salford, 5, Lancs.

DUILDING SUPERVISOR.—National building contractor with expanding business in the Midlands invites applications from suitable candidates for permanent head office position to supervise a group of large contracts. Age range: 30 to 45 years. Qualifications: Carpenter and Joiner trained, H.N.C., national contractor: several years' working on sites with eventual control an advantage. Experience: Programming, planning, cost control, site meetings, ordering and scheduling materials, supervisors, etc. Top salary, persion and bonus schemes and other strict confidence to selected spolicant—Write In Strict confidence to Sox V.1459, "The Contract Journal."

APPOINTMENTS VACANT

A SSISTANT SITE ENGINEERS REQUIRED for hydro-electric and other contracts in Scotland. Applicants should be experienced in setting out. Write giving details of age, experience, etc., to DUICAN LOGAN (CONTRACTORS), LTD., Great North Road, Mulr-od-Ord, Ross-shire, Scotland.

CHIEF PLANT CLERK, responsible to plant manager REQUIRED by national firm of building and cly engineering contractors, Peterborough. Permanen position for suitable applicant. Pension scheme Write Box V.1558, "The Contract Journal."

position for suitable applicant. Pension Scheme. Write Box V.1558, "The Contract Pension Scheme. Write Box V.1558, "The Contract Pension Scheme. White Box V.1558, "The Contract Pension Scheme. White Box V.1558, "The Contract Pension Pensi

ROOFING CONTRACTORS (MIDLANDS)

REQUIRE SUPERVISOR - REPRESENTATIVE with thorough knowledge of asbestos-sheeting and other types of industrial roofing. As this types of industrial roofing, as the state of the types of industrial roofing, as the state of the types of industrial roofing, as the state of the types of types of types of the types of types of

BOX V.1547, "THE CONTRACT JOURNAL."

TURRIFF CONSTRUCTION CORPORATION, LTD.
REQUIRES several SITE ENGINEERS. Must be experienced setting-out and technical control of reinforced concrete structures, including foundations. Competent in use of theodolite and evel. Attractive salary, allowances and conditions. Good future prospects. Pension: bonus schemes. — Write Group Personnel Manager, Budbrooke Road, Warwick.

Personnel Manager, Budbrooke Road, Warwick.

PNGINEER/AGENT REQUIRED by TURRIFF CONSTRUCTION CORPORATION for expanding contracts in the South, based on Paddington depot. Must
have reinforced concrete experience and proven record
o, ability to control substantial contracts. Attractive
salary. Pension and bonus scheme. Excellent opporsalary. Pension and bonus scheme. Excellent opporexperience details. To Group Personnel Manager,
Budbrooke Road, Warwick.

Budbrooke Road, Warwick.

JOHN MOWLEM AND CO., LTD., REQUIRE
SENIOR SURVEYORS for building contracts in
(a) London area, (b) Home Counties or Provinces,
Applications are invited from men aged 30 to 40,
fully experienced in site measurement and the preparation of interim valuations and final accounts.
Please write to Building Department, 91 Ebury Bridge
Road, London, S.W.1, giving age, details of training
and or qualications, experience, and salary required,
will be treated in strict confidence and will be
acknowledged.

acknowledged.

ENGINEER-AGENT, ASSISTANT CIVIL ENGINEERS.
Applications invited for major road contract, dual carriageways and large reinforced concrete bridges, etc., in Scotland, duration two years. Must be experienced in this class of work and preferably (not essential) qualified Civil Engineers. Own staff advised and outside applications will be treated in confidence and salary expected, to Box V.1575, "The Contract Journal."

QUALIFIED ACCOUNTANT or A.C.W.A. or A.C.I.S.
REQUIRED by prominent firm of civil engineering contractors for responsible position in Africa. Permanent position, with good prospects, salary, and home leave. Married accommodation if required. This is an excellent opportunity for a young man who is prepared to travel and learn the industry.—Write to Box V.1577. "The Contract Journal," quoting Ref. QRS.'9.

CIVIL ENGINEERING AGENT

British contractors REQUIRE an AGENT for a large road contract in Africa. Applicants should be qualified and have previous overseas experience, together with a knowledge of the technique and operation of modern heavy earthmoving plant plus above-average administrative and negotiating ability. The salary offered is about £2,500 p.a. plus free accommodation, transport and paid home leave, and it is envisaged that the man appointed will become a permanent member of the company's staff.—Write, with full details of career to date, to:

BOX V.1565. "THE CONTRACT JOURNAL."

SALES MANAGER.—REQUIRED by old-established private company, fully experienced SALES MANAGER, aged 30-45. Successful agent at hould have several years' experience of selling road materials (preferably slag), dry and coated, to local authorities, etc. This vacancy requires a man of high character, good address, and the ability to meet persons in the trade at the highest level. There is a contributory pension scheme in operation. Salary by arrangement.

Darnal."

EXPANDING, virile organisation REQUIRE immediately experienced REPRESENTATIVES (salary) commission or commission only). Patented produce widely acclaimed by architects and building industry. Only smart salesmen having live architect contractor/ shopfitting connections considered. Excellent opportunity for go-getters.—Confidential applications for South Audiey Street, London, W.A. IFLER, LTD., South Audiey Street, London, W.A. IFLER, LTD., South Audiey Street, London, W.A. IFLER, LTD., SINEARE CONTRACTOR CONTRACTO

ONSULTING ENGINEERS REQUIRE REINFORCED CONCRETE DETAILERS. Minimum three years experience. Permanent position. Pension science salary required to F. B. BULLEN AND PARTNERS. Dacre House, Dean Farrar Street, Westminster, S.W.1.

ROAD SURFACING CONTRACTORS REQUIRE competent ESTIMATOR for their North-Western branch. Excellent prospects for experienced person, write, stating salary required, and giving full detalls of previous appointments, to Box V.1595, "The Contract Journal."

APPOINTMENTS VACANT

ESTIMATORS and SENIOR DRAUGHTSMEN REQUIRED for well-paid permanent appointments.
Superannuation scheme, canteen facilities.—Applications, with details of past experience, present salary
and copy references to be submitted to The Manager,
concrete Department, THE CROPT GRANITE, BRICK
AND CONCRETE CO., LID. Coott, near Leicester.

AN EXPERIENCED REPRESENTATIVE for Central
Condon including possibly also Kent) is Rein
and a close acquaintanel ground to the considerable energy, selling ability
and a close acquaintance if not an actual connection
with the individuals and organisations who purchase
this type of equipment is indispensable. A satisfactorivial carrings of about £1,500 per annum.
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OR REQUIRED for work at Hunterston Nuclear Generating Station, Arrshire, in settlement of civil engineering contract. Full details of the appointment will be given at interview, which will be arranged in London, Stockport, or site.—Applicants should give full details of age, experience and qualifications, if CARVES, LTD., Cheedle Heath, Stockport, quoting Ref. SC. 2.

CIVIL ENGINEERING ESTIMATOR

REQUIRED by JOHN MOWLEM AND CO., LTD., in their head office. Applicants should have had 10 to 15 years' experience with contractors on site works and be interested in project planning and cost and output data. Remuneration and benefits commensurate with the position. — Apply in writing only, giving full particulars of experience, to:

JOHN MOWLEM AND CO., LTD., 91 Ebury Bridge Road, London, S.W.1.

Outside Representative Wanted by London plant company, mainly for London and Home Counties. Must be fully experienced and have existing connection. — Write Box V.1579, "The Contract Journal."

Contract Journal."

Company Secretary Required by recently established and progressive civil engineering company in the North London area. Young Chartered and the Contract of the Contract of Contrac

ACCOUNTANT to control site records and returns to branch office, East London, for building and civil engineering contractors. Salary up to £1,000 per annum.—Full particulars, in strictest confidence, to Box V.1590. "The Contract Journal."

MICHIGAN (GREAT BRITAIN), LTD.

Owing to expansion, further vacancies exist for experienced SALES REPRESENTATIVES who have handled tractor shovels and rubber-tyred earthmoving equipment. Areas to be covered include South-West England, Midlands and East Analia. Good salary. Excellent prospects. Pension scheme. — Apply with fullest details to:

The Personnel Officer (Ref. Mich-Sales), MICHIGAN (GREAT BRITAIN), LTD.,

CIVIL ENGINEER, under 30. University Graduate oA.M.I.C.E., REQUIRED in head office of loneestablished firm of gunite specialists. Varied and
interesting employment offered in the diagnosis of the
defects in structures, the preparation of remedial
schemes and tendering for same, planning and administration of contracts. Applicants must have had some
years site experience with general contractors. Per
manency and good prospects for a man with ability
and good prospects are a man with ability
scheme.—Reply in confidence, stating age, education,
experience, and present salary, to T. WHITLEY
MORAN, M.I.C.E., 5 Old Hall Street, Liverpool, 5.

XX AND C. FRENCH, LTD. usgently REGUIRE

WAND C. FRENCH. LTD., urgently REQUIRE
QUANTITY SURVEYORS, aged 25-35, with
experience of civil engineering and building contracts,
for site work within a radius of 25 miles of Buckhurst
Hill. Essex.—Apply in writing, stating age, experience, and salary required, to Personnel Manager, 56
Epping New Road, Buckhurst Hill." and quoting Ref.
No. 130.

No. 130.

ESTIMATOR for civil engineering contracts. Wide experience necessary in estimating for road and sever miles of the contract of the c

SIR ROBERT MCALPINE AND SONS, LTD.

CIVIL ENGINEERS are WANTED for work in the South Wales area. There are vacancies for Civil Engineers with two or three years' experience in construction.—Aoply, giving qualifications, experience, age, salary expected, etc., to:

SIR ROBERT MCALPINE AND SONS, LTD., 80 Park Lane, London, W.1.

CUBITTS.—Surveying and Estimating Staff. Appointments in London will be made as follows: SENIOR SURVEYOR, civil engineering, not less than seven years' experience after training: SURVEYOR and SETIMATOR SURVEYOR, medium-sized building work. The positions offer very good conditions and prosects in a large and expanding organisation.—Suitably condidence andidates are invited to write, in strictest condidence and the service of the service o

THREE SENIOR ENGINEERS REQUIRED. Salary range £1,200 £1,500. Must be Chartered Civil Engineers: graduates preferred. Previous contracting opperience essential.—Apoly to Chief Civil Engineer. W. AND J. R. WATSON, LTD., Romano House. Station Road, Edinburgh, 12.

APPOINTMENTS VACANT

CUBITTS.—Applications are invited from AGENTS and GENERAL FOREMEN well experienced in control of general heavy civil engineering construction, and from SENIOR and JUNIOR CIVIL ENGINEERS for work on site or at head office.—Please send full details, in confidence, to Personnel Manager (1,5438 (J)), HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN), LTD., 1 Queen Anne's Gate, London, S.W.1.

London, S.W.1.

Lading Company manufacturing industrial mechanical handling equipment DESIRES the services of an experienced TECHNICAL SALES REPRESENTATIVES for the Midlands and counties in the North-West and North-East, including Yorkshire. Secosylu selling experience is desirable, and full second selling experience is desirable, and full second selling experience is desirable, and full selling experience is desirable experience in the selling experience is desirable experience in the selling experience is desirable experience in the selling experience is desirable experience.

SENIOR ESTIMATOR

REQUIRED for City head office. Applicants, aged between 30 and 45, should have had considerable experience in estimating for major civil engineering works. The appointment offers scope and interest in an organisation with world-wide commitments. Good progressive salary; pension fund. 5-day week Luncheon club.—Write details sage and experience to:

(I.A.M./213), BALFOUR, BEATTY AND CO., LTD., 66 Queen Street, London, E.C.4.

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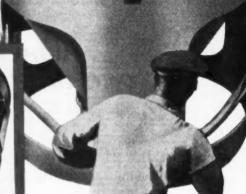
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The above COUNCIL invite contractors who are desirous of submitting TENDERS for the ERECTION of a power of the country of the

payment of 25 35., recently renders, on forms supplied, must reach the undersigned not later than 12 Noon on TUESDAY, 3rd May, 1960.

The Council do not blind themselves to accept the lowest or any Tender.

N. F. DAVIES.

N. F. DAVIES, Town Clerk. Town Clerk's Office, Evesham 31st March, 1960.

BOROUGH OF YEOVIL.

WEST STREET RELIEF SEWER.

WEST STREET RELIEF SEWER.

Applications are invited from experienced contractors who wish to submit a TENDER for the ABOVE-MENTIONED WORKS. The works consist of the Laying of approx. 110yd. of 24in. dia. Sewers and the Construction of an Overflow Chamber.

Applications must be submitted to the undersigned not after than 12 Noon on THURSDAY, 14th April.

Similar work has been carried out.

Applicants invited to tender will receive copies of Specification and Drawlings, and will be notified of the last date for receipt of Tenders.

A. HEAL, MI.Mun.E..

Borough Surveyor.

CITY OF ST. ALBANS.

WELLINGTON COURT CAR PARK.

TENDERS are invited for GRADING and the CON-STRUCTION of HARDCORE BASE for Car Park, together with Surfaced Entrances and various ancillary works. The total area is approx. 2,000 sq. yd. Tender documents and Plans may be obtained from the City Engineer's Office, 16 St. Peter's Street, St. Albans. Tenders, in the envelopes provided, and bearing on indication of the sender, shall be returned to indication to the sender, shall be returned to indication to the sender, shall be returned to indication to the sender, shall be returned to 19th April, 1960.

B. V. ENTWISTLE, Town Clerk.

38 St. Peter's Street, St. Albans, Herts.

THE URBAN DISTRICT COUNCIL OF HAVANT AND WATERLOO.

TENDERS are invited for the EXTERNAL PAINTING of 330 PROPERTIES in Six Groups. Form of Tender, Specification and Conditions of Contract may be obtained from the Engineer and Surveyor, 1 Park Road North, Havant.

Mo Tender will be received except in a plain sealing envisions which must bear the word "Tender," followed envisions which must bear the word "Tender," followed envisions which must be are the word "Tender," followed any name or mark indicating the sender, and must be delivered to the CLERK OF THE COUNCIL. Town Hall, Mayant, not later than 10 a.m. on WEDNESDAY, 13th April, 1960.

WEDNESDAY, 13th April, 1960.

Tenders from different contractors for the Six Groups. March, 1960.

ROTHWELL (YORKS.) URBAN DISTRICT ESHALD LANE, WOODLESFORD-MAIN DRAINAGE

ESHALD LANE, WOODLESFORD—MAIN DRAINAGE
The Council propose to invite TENDERS, on a
Fixed-price Basis, for the CONSTRUCTION of 131
lin. yd. of 9ln. dia. and 260 lin. yd. of 12ln. dia.
S.G. SEWERS, and 226 lin. yd. of 12ln. dia. SPUNIRON PIPES, together with Manholes and a Storm
Overflow Chamber. Speed of construction for an
early consection of the search of the s

Civic Buildings, Rothwell, Yorks. 25th March, 1960.

AND C. FRENCH. LTD., urgently REQUIRE
of experienced ENGINEERS, preferably qualified, for building and civil engineering contracts in the home Counties. Good prospects for suitable applicants. Apply in writing to Personnel Manager. 50 Epping New Road, Buckburst Hill, Essex, stating age, experience, and salary required, and quoting Ref. No. 250.

QUANTITY SURVEYORS, Senior and Junior,
QUIRED to work from head office, Cheltenh
Good conditions and prospects to men experien
in works of civil engineering construction.—At
COSTELLOE AND KEMPLE, LTD., Alstone Li
Cheltenham 54661.

Cheltenham 54661.

ENGINEER-AGENT. GENERAL FOREMEN and GANGERS REQUIRED on road and sewer contracts in the sewer contracts and the sewer contracts in London and Home Countles. Aprilicants must have wide experience of laying hot asphalt and coated macadams. This position offers excellent prospects for advancement for men of ability. Age 30/35 preferred. Company car provided, and pension scheme operates. — Apply in writing to Walkden House, Metion Street, N.W.1.

STITE ENGINEER with minimum of three years' experience, REQUIRED in first Instance for sewerage contract in South Durham, involving heading and river work. Excellent opportunity for competent young man. — WALTER G. BIRCH (HARROGATE), LTD., Montpellier House, Harrogate.

SITE ENGINEER REQUIRED for setting-out roads and sewers an large housing scheme in South London. — Apply in writing to M. HOWARD (MITCHAM). LTD. Wandle House, London Road, Mitcham, Surrey, giving details of age, qualifications

ADMINISTRATIVE COUNTY OF

The HIGHWAYS COMMITTEE of the LEICESTER COUNTY COUNCIL invite TENDERS for the SUPPLY and DELIVERY of 31 ROLLED STEEL JOISTS, each 27tt. long, of 12in. x Sin. section. Forms of Tender may be obtained from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester.

J. A. CHATTERTON, Clerk of the Council

STAINES URBAN DISTRICT COUNCIL.

REDRAINAGE OF SOUTHERN COTTAGES-HORTON ROAD, STANWELL MOOR.

REDRAINAGE OF SOUTHERN CHORN.

FIXED-PRICE TENDERS are invited for the LAYING of NEW COMBINED FOUL DRAINAGE SYSTEMS to serve Southern Cottages, Horton Road, these systems to be connected to the Main Sewer. The works comprise of the following approx. quantities, together with ancillary works: 6in. S.G. Stoneware Pipes—352 lin. yd.; New Inspection Chambers—35. Stoneware Pipes—105 lin. yd.; 4in. S.G. Stoneware Pipes—105 lin. yd.; 4in. S.G. Stoneware Pipes—107 lin. yd.; 4in. S.G. Stoneware Pipes—108 lin. yd.; Alm. S.G. Stoneware Pipes—108 lin. yd.; 4in. S.G. Stoneware with a stoneware pipes—108 lin. yd.; 4in. S.G. Stoneware with the condent of a deposit of S.Z. Zs., which will be returned upon receipt of a bona-fied Tender not subsequently withdrawn, together with the return of all documents. In the endorsed envelope provided, and free from any mark indicating the name of the sender, shall be returned to the undersigned not later than 5 p.m. on THURSDAY, 14th April, 1960. The Council does not bind itself the accept the lowest or any Tender.

Elmsleigh, Straet

73 High Street, Staines, Middx.

BUSHEY URBAN DISTRICT COUNCIL.

SOIL SEWER—BOURNEHALL AVENUE TO PARK AVENUE.
SURFACE WATER SEWER—BUSHEY HALL GOLF COURSE TO PARK AVENUE.

The Council invite contractors with wide experience of similar work and who are willing to TENDER for the ABOVE CONTRACT to submit their names and give full details of such experience to the Engineer and Surveyor at the address below by 22nd APRIL, 1960.

of, Division will such a chasen who will such a chasen who will such a chasen who will such a chasen will be considered to the council.

Clerk of the Council.

CAISTOR RURAL DISTRICT COUNCIL.

CAISTOR AND NETTLETON SEWERAGE SCHEME.

CAISTOR AND NETTLETON SEWERAGE SCHEME.

TENDERS are invited for the FOLLOWING:
CONTRACT NO. 1.—The Construction of approx.
315.74 of 16. dia.; 940yd. of 9h. dia.,
as 38 of 16. dia.; 940yd. of 9h. dia.
as 38 of 16. dia.; 940yd. of 9h. dia.
as 38 of 16. dia.; 940yd. of 9h. dia.
as 38 of 16. dia.; 940yd. of 9h. dia.
as 38 of 12h. dia. Spun-iron
Mains: together with a Pumping Station.
Sewage Treatment Works at Caistor and
Nettleton in the Caistor Rural District of
Lincolnshire.
CONTRACT NO. 2.—The Supply and Erection at
Caistor and Nettleton of Two 150 gallons
per long the Sewage supply and Erection at
Caistor and Nettleton of Two 150 gallons
per long the Sewage supply and Erection at
Cantractors wishing to tender should apply for
the documents and Drawings to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS,
Belmont House, 20 Wood Lane, Headingley, Leeds, 6,
enclosing a deposit cheeu value Three Chacalstor
R.D.C., such deposit to be refunded upon receipt
of a bona-fide Tender and the return of all the
documents and Drawings.
Tenders, with the Bills of Quantitles priced in ink,
are to be submitted to the undersigned not later
than 9.30 a.m. on the 30th APRIL, 1960.
The Council do not blind themselves to accept the
lowest or any Tender they man gallons.
Caistor, Lincs.

Council Offices, Caistor, Lincs, 28th March, 1960.

28th March, 1960.

"THE CONTRACT JOURNAL" have a vacancy in their accounts department for an intelligent young LADY to record and price advertisements. Neat and legible handwriting is essential, so applications, in writing, please, to the Secretary, THE CONTRACT JOURNAL CO., LTD., 32 Southwark Bridge Road, S.E.1.

Bridge Road, S.E.1.

CIVIL ENGINEER/AGENT REQUIRED to take charge of reinforced concrete contracts. Must be prepared to travel, Experience in multi-storey frame buildings an advantage. The right man can expect a permanent position with good prospects. Apply in writing to CHRISTIANI AND NIELSEN, LTD., Romney House, Tutton Street, London, S.W.1.

EXPERIENCED CIVIL ENGINEERING COST CLERK REQUIRED to work in South Wales.—Apply in writing to SIR LINDSAY PARKINSON AND CO. LTD., Northern Area Office, Templenewsam, Leeds, 15.

CMANTITY SURVEYORS.—THE MITCHELI COM-

LTD., Northern Area Office, Templenewsam, Leeds, 15.

QUANTITY SURVEYORS.—THE MITCHELL CONSTRUCTION CO., LTD., REQUIRE experienced
QUANTITY SURVEYORS initially on large building
and civil engineering contracts in England and Scotland. These appointments will be permanent, with
good salary and conditions, and entry into superannuation scheme after 12 months' service.—
Applications, giving details of training and experience
addressed to The Mitchell Construction Co., Ltd.,
Whart Works, Peterborough.

Wharf Works, Peterborough.

CIVIL ENGINEERS REQUIRED as Resident Engineers for new contracts on North-East Coast. Experience in high-class reinforced concrete work or maritime works an advantage.—Applications in writing giving details of experience and qualifications, to R. T. JAMES AND PARTMERS, Clavering Place. Newcastle upon Tyne. 1. Tel. 22360.

NORTHUMBERLAND COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

LONDON-EDINBURGH-THURSO TRUNK ROAD, A.1. ALNWICK BY-PASS.

TENDERS are invited for the SINKING of approx 18 BOREHOLES on the line of the ABOVE BY-PASS including Sampling and the Carrying Out of Soil Tests Specification, Bill of Quantities and contract docu-ments may be had on application to the County Surveyor, Phoenix House, Queen Street, Newcasti upon Tyne, 1.

upon Tyne, 1.

The closing date for the receipt of Tenders will be 9 a.m. on the 11th APRIL 1960.

E. P. HARVEY
Clerk of the County Council.

THE HASTINGS CORPORATION.

TENDERS invited for the SUPPLY and DELIVERY of various articles of UNIFORM required by the Mastings Police Force. Full details of the kind and number of articles required can be obtained on application to the Chiler Constable. Robertson Terrace, Hardward of the Constable of the Material to be supplied, should be delivered at my Office not later than midday on the 14th APRIL, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

N. P. LESTER, Town Clerk.

SALISBURY AND WILTON RURAL DISTRICT COUNCIL.

REGIONAL WATER SUPPLY-STAGE 4-

The Council invites FIXED-PRICE TENDERS for the LAYING of approx. 23 miles of 8in., 6in., 4in. and 3in. dia. \$PUN-IRON MAINS, and CONSTRUCTION of a 250,000-gallon REINFORCED CONCRETE RESERVOIR, together with works incidental theretox. The second of the proposals may be inspected at the Offices of the Consulting Engineers. Messrs. Lemon and Bilizard, Telford House, Hulse Road, Southampton, or at the Council Offices.

The General Conditions of Contract, Specification. Billis of Quantities and Form of Tender may be obtained from the undersigned on or after Monday. 1th April, 1860, upon payment of a deposit of the Council of the Cou

C. S. BROWN, Clerk of the Council

Council Offices, 26 Endless Street, Sallsbury, Wilts. 28th March, 1960.

ALCESTER RURAL DISTRICT COUNCIL. ROADWORKS-SALFORD PRIORS.

ROADWORKS—SALFORD PRIORS.

FIXED -PRICE TENDERS are invited for the CONSTRUCTION of approx. 2,000 sun, yd. TAR-RAADADAM ROADS SEWERS and WATER MAIN SALFORD PRIORS, under the Council's Architects, Messrs. F. B. Andrews and Son, 95 Colmore Row. Birmingham.

Applications for Drawings and Bills of Quantities to be made to the Surveyor, Council Offices, Alcester, not later than 8th APRIL, 1960, with payment of a deposit of Two Guiness, which chillings are considered to the Alcester Rural District Council). Tenders, in plain envelopes, endorsed "Tender-Roadworks—Salford Priors," must reach the undersigned not later than 12 Noon on the 11th MAY, 1960.

28th March, 1960.

W AND C. FRENCH, LTD, urgently REQUIRE

• fully experienced BONUS SURVEYORS for civil
engineering and building contracts.—Apply in writing,
stating age, experience, and salary required, to
Personnel Manager, 50 Epping New Road, Buckhurst
Hill, Essex, and quoting Ref. No. 360.

OUNRED by British civil engineering contractor for large public works contract in West Africa, Salary range 51,500-52,300 per annum, according to experience—Write brief details of experience to 8ox C.J. 195 L.P.E., Romano House, 399-401 Strand, London, W.C.2.

C.J. 195 L.P.E., Romano House, 399-401 Strand, London, W.C.2.

CONSTRUCTORS JOHN BROWN, L.TD.. REQUIRE A RESIDENT ASSISTANT QUANTITY SURVEYOR for large pipeline cone 25 to 30 years, and state of the stranger of the state of th

MACTRAC, LTD., invite applications from experienced AGENTS and GENERAL FOREMEN for
large sewer, road and building contracts in home
counties. The positions offer permanent, progressive,
well-paid employment.—Apply in confidence, stating
age, experience, salary required, to Area
159 6t. Leonards Road, Windsor. Tel.: 3057.

ABELSON AND CO. (ENGINEERS). LTD., REQUIRE
SALES REPRESENTATIVE to operate in Southern
England.—Apply with details of experience, age, salary
required, in 7 South Side, Clapham Common, London,
S.W.4.

This CIBA process plant is

COSTAIN built



Front elevation to the office block

Side elevation with pipe bridge; temporary end and

EIGHT MONTHS FROM DESIGN TO COMPLETION!

The timing on this contract at Grimsby for CIBA Laboratories Ltd., the internationally-known manufacturers of pharmaceutical chemical products, demonstrates the wisdom of calling in Costain's at the very start. Their broadly based organisation with its many specialised branches, can foresee difficulties and overcome them with the minimum of delay.

Architects for the office block and consulting architects for other buildings:

J. DOUGLASS MATHEWS AND PARTNERS. Chartered Architects

It's never too soon to call in



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CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

THE CONTRACT JOURNAL

incorporating

THE BRITISH CONSTRUCTIONAL ENGINEER
and
THE CONTRACTOR

Established 1879

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LAWRENCE McCARTHY

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Advertisements

Advertisement rates may be obtained on application to R. Binfield, Advertisement Manager.

TRAINING FOR SAFETY OFFICERS

A CCORDING to figures recently published in the Ministry of Labour Gazette the total number of fatal accidents which occurred on building operations during 1959 was 171, compared with 207 in 1958 and 156 in 1957. While this reduction in fatalities is to be welcomed as a move in the right direction the fact remains that building accidents as a whole reached a new peak last year.

What is to be done? The Building Regulations are considered pretty comprehensive and the intention to extend the definition of "work of engineering construction" in the Factories Act to include virtually all civil constructional engineering work should help. But there are limits to what restrictions, and the Factory Inspectorate, can achieve.

Employers and operatives alike must continue to use every endeavour if real progress is to be made in making construction work safer. As the Chief Inspector of Factories recently stated, in the last resort the power to improve the safety record of the industries rest with the industries themselves. A sense of responsibility and of the need for co-operation must pervade all ranks of management and workers alike if the toll of accidents is to be reduced.

In recent years, thanks to the efforts of such bodies as the London Building and Engineering Contractors Accident Prevention Group, much more interest has been taken in this problem but much still remains to be done by both management and operatives. On the management side too many firms appoint safety officers reluctantly and without any consideration for their qualifications. The Chairman of the London Group, Mr. J. A. Hayward, recently suggested that there was a need for specialist training of safety officers in the construction industries. He is undoubtedly right and the suggestion should receive the urgent consideration of the employers' associations.

Preplanning!

DURING the past two years Hampshire County Council have carried out the first two parts of a three-year plan, agreed with the Ministry of Transport, for the maintenance and improvement of the A.31 Winchester-Alton-Farnham road. Money allocated for the maintenance of the road was used in the agreed scheme and actual improvements including double carriageways were undertaken. The final phase of this three-year programme dealing with the most dangerous sections was due to start on April 1.

Less than two weeks before this starting date the Council were informed by the Ministry of Transport that this third section would not receive Ministerial approval, as it could not be agreed that maintenance money should continue to be spent on improvements.

The Council's Roads and Bridges Committee, in a telegram to the Minister, said they could not understand the reason for the change in policy by the Ministry or why the change should be made at that stage. It is also doubtful whether anyone else, outside the Ministry, will understand!

There may be good reasons for the Ministry wishing to change their policy, but for the local authority to be told less than two weeks before the starting date, when the land has been purchased and the men and machines are waiting to go, borders on the ridiculous. Did someone mention preplanning?

No Mean Achievement

WHILE the construction industries continue to make new records in the United Kingdom (contractors carried out work to the value of £509m. during the fourth quarter of last year), it is interesting to report that the value of work undertaken overseas by the British civil engineering industry in the year ended March 31, 1959, was £120m., an increase of nearly £6m. over the previous year.

Considering the difficulties of operating abroad, particularly during recent years, this is no mean achievement which augurs well for the future.

A LAWYER CONSIDERS . . .

The "Architect's" Certificate - Duty to Employees

IN Lynn Estates (Southern), Ltd. v Gardiner, "The Estates Gazette," March 5, 1960, the actual claim of the estate developer against G, a house purchaser, was for £9 7s. 11d. under a fluctuation clause in the contract for the

erection of the house

This contract provided for payment of the contract price in four instalments: when the damp proof course was completed; at the stage of frame erection; at the stage of completion of inner and outer the stage of completion of inner and outer cladding; and on completion of the works. At each stage payment was subject to the architect's certificate. A further clause provided that "in the event of there being fluctuations in the cost of materials or rates of labour the architect shall, upon certifying at each of the four stages of construction, note upon the certificate relating to the same the amount (which shall be determined by him) whereby the instalment payable at that stage falls to be increased or decreased by reason of such increased or decreased by reason of such fluctuations."

In January, 1955, the house was com-pleted and because of a rise in costs G was requested to make payment of the extra sum referred to above. Three of the extra sum referred to above. Three of the stage payments or instalments had in fact been paid without an architect's certificate which was not in accordance. which was not in accordance with the conwhich was not in accordance with the con-tract. This claim for extra payment was made by a company called Unity Structures, Ltd., and signed by a gentleman called contracts manager but who was not an architect. Lynn Estates, the estate developers, had retained Unity Structures, Ltd., as architects to supervise the design and building of the hundred houses on the estate. The claim for extra payment was supported in the county court on the following grounds; it was not a condition precedent to the recovery of the extra sum that there should be an architect's certificate; if however this contention were wrong, nevertheless, in this contract, the parties had already paid and accepted instalments without a certificate and had thus waived this provision in the contract; and that in any case the certificate of Unity developers, had retained Unity Structures, that in any case the certificate of Unity Structures, Ltd., was a sufficient "archi-tect's certificate" to satisfy the contract and render these fluctuation payments a debt due to the estate developer from G.

The Court of Appeal upheld the view of the county court judge that the conduct of the parties had not been such as to vary the contract conditions requiring an architect's certificate before payment, that is there had been no sufficient waiver of this provision and so an architect's certificate was still required for any further payments. It seemed clear from the contract that the parties contemplated that there would be a final certificate. The Court however was not concerned as to whether or not a claim would have been properly inserted in the final certificate in respect of increased costs which had arisen before the previous certificates were due. The sole question was whether there had been such a final certificate issued by the architect as contemplated by the contract for only on such a certificate was the final instalment contractually due.

on such a certificate was the final instalment contractually due.
On looking at the contract conditions the Court of Appeal were unable to accept Unity Structures, Ltd., as the architect. The relevant clause seemed, by its use of "him" and "he," to contemplate an actual individual not an artificial individual like a company. Moreover, since the contract provided that the building had to be erected "to the satisfaction of the architect employed by the builders," it seemed clear that the parties must have contemplated. clear that the parties must have contemplated some individual other than Unity Structures, Ltd., who would really be judges in there own cause. The Court, therefore, rejected the claim as there had been no final certificate by the architect and only on such certificate did there arise a debt due to the estate developers from G.

It seems a pity, with all respect to the abbreviated report in "The Estates Gazette," that there is not a full Law Report available on this case whose chief point of general interest is on the position of the person appointed to be the "archi-teet" and entrusted with powers of certi-fication. One may yet hope that the case will find its way into the Law Report.

will find its way into the Law Report.
Since, of course, many estate developers employ their own architect, who may or may not be a qualified architect, such "architect" is not, unlike the position in normal contract work, the agent of the building owner. If then payment is made dependent on the work being done to the satisfaction, and subsequent certificate, of such a person, the question of how far that person must be made independent for his certificate to be valid is a most important

Of course the agreement in this kind of estate development can make the stage payments, which are a usual method of financing the work, due when the relevant work is in fact completed; the obligation to pay then arises when the work contracted to be done is in fact done. This is no doubt the easiest method to adopt. However, from the viewpoint, important to ever, from the viewpoint, important to estate developers, of satisfying the lay client, who, making the biggest purchase in his life, quite naturally wants some inde-pendent assurance that the work for which pendent assurance that the work for which he is paying has been properly done, it is probably desirable to insert some such provision as in this case making payment dependent on the work being done to the satisfaction, and subsequent certificate, of an "architect." If this is done the following points should perhaps be borne in mind.

points should perhaps be borne in mind.

This kind of provision presupposes for its efficacy that the person appointed as "architect" shall have some independence from the contractor. Of course the purchaser would probably be deemed to know that the "architect" in these sort of cases may not in fact be a qualified architect but if this is the case it should be stated clearly in the contract to remove any doubt. Also he would probably be deemed to know that the "architect" is not his agent and that he will usually be looking for his fee or salary to the contractor; if this is the case it should, again to remove doubt, be made clear to the prospective purchaser what the position of the "architect" is in the contractor's organisation. If purchaser what the position of the "architect" is in the contractor's organisation. If these precautions are taken then the purchaser cannot challenge the validity of any certificate given by the "architect" on the grounds that he is not an architect qualified as such, and that he was unaware of the "architect's" financial dependence on the contractor. Even if these two points are made clear, nevertheless to ensure the validity of a clause in such a contract validity of a clause in such a contract making payment conditional on the work being done to the satisfaction of the "archibeing done to the satisfaction of the "archi-tect," there should be an individual, pre-ferably someone with some sort of qualifi-cations for this kind of work, and that someone should not be the same person as the contractor. If this reasonable inde-pendence is not given to the person named as "architect" and certifier the contractor as aromeet and certifier the contractor runs the risk (as the estate developer did in this case) of that person's certificate being challenged as not the kind of architect's certificate the issue of which the contract makes a condition precedent to payment becoming due from the client.

Duty to Employees

IN Brown v Rolls-Royce, Ltd. [(1960) 1
All E.R. 577], B was employed by R.
Ltd. and in his work he was constantly
handling oily substances. As a result he

contracted dermatitis and he sued the comcontracted dermatitis and he sued the company for negligence in failing to supply him with barrier cream. In other words he was saying that R. Ltd. were in breach of the common law duty owed by an employer to his employees to take reasonable care for their safety. Some of the facts found in the lower courts were as follows: R. Ltd. supplied ample washing facilities; they did not supply barrier cream; medical opinion was divided as to the value of barrier cream as a precaution against dermatitis: R. Ltd.'s own medical officer. opinion was divided as to the value of barrier cream as a precaution against dermatitis; R. Ltd.'s own medical officer, on whose opinion the company naturally relied, was against barrier cream as one of the company opinion that the company opinion the company opinion that the company opinion the company opinion that the company opinion that the the precautions against dermatistis; the medical officer was not negligent in holding this opinion in view of the division of medical opinion on this point; barrier cream was however often supplied in other employments where men were doing work similar to that performed by B.

similar to that performed by B.

On these facts there was an appeal to the House of Lords from the Scottish Courts who had finally decided against B's claim. In the Lords B contended that some of the above findings of fact, in particular that it was a common practice among employers to supply barrier cream for employees in jobs similar to B's, necessarily raised a presumption of negligence by his employers which his employers had sarily raised a presumption of negligence by his employers which his employers had to disprove. In other words, on the facts as found R. Ltd. were guilty of negligence towards B and the onus of proof then passed to them; they would be saddled with responsibility unless they could dis-prove the charge. The House of Lords unanimously rejected this argument which, though it might seem to be a purely precedural point as to the person on whom the burden of proof lay, was in reality an precedural point as to the person on whom the burden of proof lay, was in reality an attempt to undermine the fundamental principle that a plaintiff like B must prove his case; it is not generally sufficient merely to raise against the defendant a prima facie case and then leave the defendant to disprove the case against him. These findings of fact were B's case against his employers: the sole question was whether or not they the sole question was whether or not they were sufficient to prove that R. Ltd. had failed in their duty to take reasonable precautions for their employee, B's, safety. The lower courts, after carefully considering them, had come to the conclusion that they were not sufficient; as the House was by statute in this Scottish appeal bound to accept the lower court's decision on the

by statute in this Scottish appeal bound to accept the lower court's decision on the facts and as, according to the House's decision, those lower courts had applied the law correctly to those facts, the House upheld the decision that B's claim failed. It should be remembered that this case was fought on the ground of breach of an employer's common law duty to his employees. If there were any safety or health regulations which had laid a duty on the employers to provide barrier cream or any other protective device then the employee would have had a guite separate and diswould have had a quite separate and dis-tinct cause of action against his employers for breach of statutory duty.

POST-GRADUATE COURSE IN COST PLANNING

The Quantity Surveyors' Committee the Cost Research Panel of the Royal Insti-tution of Chartered Surveyors are sponsortution of Chartered Surveyors are sponsoring the second Post-Graduate Course in Cost Planning, which is to be held at the Trades Union Congress Memorial Building, Great Russell Street, London, W.C.1, from May 9 to 12, 1960.

The Course, like its predecessor in November, 1959, is to be administered by the L.C.C. Brixton School of Building. It in intended to describe to senior quantity surveyors the latest developments in cost

surveyors the latest developments in cos planning methods and to stimulate thought and discussion of this subject.

LOOKING AHEAD AT THE BUILDING INDUSTRY

By Peter Trench, O.B.E., T.D., B.Sc., F.I.O.B.*

TT would be ridiculous to believe that the future structure of the building industry will not be influenced by matters quite outside the control of the industry itself, and it would be just as ridiculous to believe that these external forces are at all predictable with any accuracy.

The influence of political economy more an anything else is likely to shape the than anything else

building industry of the future, and I believe that this influence, together possibly with a change in education philosophy, rather than detechnical, sign. trade union or any other in-fluence, is likely to be the greatest contribufactor ting to our indus-trial evolution during the next



during the next half-century.
One thing is PETER TRENCH, O.B.E. quite certain. Our resources will never be really adequate to afford the luxury of waste, whether it be manpower, raw materials or brains. Nor in the years to come will we be able to stand the property of t the years to come will we be able to stand aloof in our island fastness, basing our independence on the glories of Empire. The somewhat disparaging description of the building industry as a "sheltered industry" is unlikely to apply by the end of this century. If the building owner in 50 years time will be able to get a better building from a German architect-cum-engineer, or even from a German building firm, patriotism is unlikely to prevent him from doing so. doing so

Industrialisation of Building

Few industries have achieved their end product in conditions so conducive to waste as building: some of those conditions are of its own making, but others are the result of working in the open with a constantly changing labour force. It has been estimated, for example, that the loss of output each year from bad weather alone is equivalent to a permanent loss to the industry of a labour force of 50,000. Many of the traditional building processes are wasteful in the extreme. Inefficiency and poor production are two more factors which contribute to waste. The country cannot afford this waste now, and it will certainly not be able to afford it in the years to come. The antidotes are already emerging — better training, increased managerial skill, mechanisation and prefabrication or offsite preparation—they are being forced on us by the external influence of economics, and the trend will continue. Few industries have achieved their end continue.

The trend towards the industrialisation of building, made inevitable by high site costs and low output, will in itself give full scope to the increasing use of new management techniques such as planning, work study and incentive schemes, for these are more capable of fulfilment in the factory conditions of pre-assembly and the mechanised site than they are with today's building processes. It has been computed that 40,000 concrete mixers are in use on sites at any one time and in many cases turning out concrete for placing in formwork fabricated under site conditions. It is well worth considering the saving in men and materials (although not necessarily in money) by the use of ready mixed concrete, scientifically mixed and controlled at a central depot and

*Extracts from Paper presented to the Royal Institute of British Architects on Tuesday, March 22, 1960.

poured into formwork prepared offsite, or alternatively, the use of precast and possibly prestressed concrete units fabripossibly prestressed concrete units fabricated under factory conditions. Such trends towards the reduction of waste in men and materials cannot be sustained, however, unless the relative costs are favourable and designers and erectors are themselves prepared to experiment in this direction. We have only recently arrived at a stage where the cost of site labour on a normal building job has made large coale at a stage where the cost of site labour on a normal building job has made large-scale mechanisation an economic proposition, not only because it has led to a reduction in overall costs but because the whole building process has been speeded up, with the indirect savings that go with getting a building into production at the earliest possible moment. The growing understanding of the economics of fast building will no doubt contribute directly to the trend towards industrialisation. I foresee, therefore, a larger volume of

trend towards industrialisation.

I foresee, therefore, a larger volume of work being carried out by a smaller site labour force, mechanised and competently directed, and using a small number of prepared components. In case this should be misinterpreted as a forecast of redundancy, let me make it clear that I see no reason to believe that the total manuscret. dancy, let me make it clear that I see no reason to believe that the total manpower servicing the industry will be altered, but its distribution and emphasis will change and its volume of output will increase. Such a glittering future has some very important prerequisites, however! Better education and training in every department

General Education and Training

Those entering the professions, industry and commerce will be better educated than in the past, and as such their choice of careers will be influenced by the opportunities open to them by those competing for their services.

To their credit, some progressive thinking builders have become aware of this fact and, anyhow on the management side, are setting their sights at new levels, both in attracting and training recruits. In

are setting their sights at new levels, both in attracting and training recruits. In consequence, although everything in the garden is by no means lovely, I have little doubt that on the production side of the industry there is likely to be a rapid increase in managerial efficiency (and here I include site supervision), and with the recently revised examination syllabus of the Institute of Builders the first steps have already been taken to secure the future.

future.

Recruitment of Operatives

Recruitment of Operatives

But what of the recruitment, education and training of those members of the industry, now numbering over a million, who carry out the work on building sites? Here I am anything but happy about the future. I believe there is a desperately urgent need to re-examine first principles. First concerning the attractiveness of the industry, and secondly concerning the training of those entering it. I will say no more about attraction than that this is not merely a question of financial reward; it concerns working conditions, ladders of promotion, reward for merit, and a tremendous job of public relations. This is a Paper in itself, but I am concerned that if we are unable to raise the status of the whole industry in the eyes of the general public, the changes that many of us would like to see will be very slow in coming about.

On the training of our operatives I would say this. We have accepted the

slow in coming about.

On the training of our operatives I would say this. We have accepted the craft principle for 1,000 years and more, we have accepted the sole division of craftsman and labourer, we have accepted that the training of a bricklayer and the training of a painter require similar periods of time. We have accepted the unscalable barriers between the crafts. We have accepted many other principles—without question. I suggest that the time has come to question those principles and

to look at the real requirements of the next 50 years. What skills will we need to carry out new work and maintain the old? How much time can be afforded to train young men in building circular Elizabethan chimney breasts and rubbed brick arches? Is there a need for a multi-skilled operative? What of those men whose manual dexterity or craft skill is less than the so-called craftsman but who is responsible for an expensive machine and whose contribution to the financial success of a job is far tion to the financial success of a job is far greater? These questions must be answered, and the sooner the better. How can this be done? First there must be a re-assessment of user requirement, or in other assessment of user requirement, or in other words, an industrial job evaluation to establish the varying skills and degree of skill and responsibility required by the building industry of the future: secondly, training programmes must be devised to cater for these skills, and lastly the barriers of demarcation must be broken down. This is probably one of the most difficult problems facing the industry, and in particular the trade union movement. It must be met with courage if we are to compete for our fair share of manpower and make our rightful contribution to the national economic well-being. It requires in the first place an agreement by employers and unions that a scientific research project should be initiated by one of the universities or the initiated by one of the universities or the Building Research Station—probably requiring several years for completion—so that the true requirements of the industry may be established.

If, and only if, this is accomplished, will If, and only if, this is accomplished, will we see the base of our industrial triangle firmly established. For, over the next 50 years, the true pattern of the industry should be a smaller but better trained and a better paid labour force, organised by more efficient management, carrying out a greater volume of work than now. Only in this way can this tremendous industry play the part demanded of it in the economy of the future.

Size and Scope of Building Firms

What of building firms themselves? Recent trends have shown a reduction of the overall number of building firms and an increase in the larger units. This is not the overall number of building firms and an increase in the larger units. This is not surprising since the industry has been sorting itself out from its post-war mushroom growth. But will it continue? I find my crystal ball a little hazy on this, and any answer must be hedged around with "ifs." If we proceed in a series of minor finacial crises interspersed with boom conditions, and this I believe to be very possible for although we have learned how to avoid the long pre-war trade cycles we possible for although we have learned how to avoid the long pre-war trade cycles we have not learned how to achieve stability, then I fear for the medium-size building company. Unless such a company can put aside sufficient in the bright times to tide it over the not-so-bright, I think it will see its bread and butter taken from it in times of recession by the larger firm coming into its area and zone of influence. This larger firm, more and more, with its own cheap. its area and zone of influence. This larger firm, more and more, with its own cheap and efficient patented construction system prepared offsite will, in times of stress, break into that part of the market which normally it would not wish to touch. Unhappily for them, the medium firms are not always able to take one step down and break into the jobbing and maintenance market. always able to take one step down and break into the jobbing and maintenance market, for here not only will their overheads and organisation not allow them to compete economically, but the small local jobbing builder is firmly and often unshakably ensconced. The advantage that the small local man has over others is not always realised. Such advantages include a comparatively low overhead, and a small but permanent labour force often unbedevilled by such complexities as demarcation and by such complexities as demarcation and special rates. In building, the builder goes to the job—the job cannot be brought to him—so, like garages and filling stations,

geography and convenience play a big part in keeping a number of small firms in existence. It must be remembered, too, that in the latest figures, of the total of £2,200m. of construction work, £460m. was £2,200m. of construction work, £460m. was in repair and maintenance, a proportion which must be kept in mind when talking of new skills and the future. There is no reason to believe that this proportion is likely to reduce, nor is there any reason to believe that the structure of that part of the industry responsible for it is likely to show any revolutionary changes.

Again certain other "ifs" over the next half-century could see the advent of the large regional builder as opposed to the London national contractor. For this, much depends on the willing mobility of labour.

depends on the willing mobility of labour communications and the whole spread of urbanisation, but it is not impossible, on economic grounds alone, to envisage a regional (50 mile radius) concentration with a more stable, mechanised, and technically equipped labour force. The alternatives to this are the growth of the large regional subcontractors or, what is more likely, the taking over by national contractors of strategically placed medium-size firms on a

regional basis. The structure within firms has altered The structure within firms has altered quite considerably in the post-war years. The administrative to executive and the non-technical to technical staff ratios have changed and the recruitment of management specialists such as work study engineers, cost and bonus surveyors and the like has added further to the overheads of the medium and large building firms. The trend is likely to continue, bringing with it the organisational problem of maintaining a sufficiently profitable turnover to justify the high overheads (comparative with earlier times) now required by the effithe high overheads (comparative with earlier times) now required by the effi-ciently managed building company: a

problem which has a direct bearing on the system of contract in use at any one time.

The employment of design staff is not new but there is every reason to believe that this practice has grown of late. I have little hesitation in saying that in the years to come architects with the necessary qualifications will take their place along-side engineers on the boards of building companies. Moreover this move should be welcome for at least two reasons. Firstly I anticipate that a limited number of building owners will continue to deal direct with building companies and this in itself justifies top level representation of men trained in design, men who round the board room table can influence colleagues concerned mainly with production. Secondly with the continuing trend towards negotiated contracts the extent of the contribution that a builder can make at the design stage is commensurate with the calibre and training of his staff. Here again I consider the future architect has a role to play at Board level.

The Contract System

Let me now launch straight into the anathema and dilemma of architects, the packaged contract. Frankly, this has emerged for two simple reasons. First, the builder has found that he has a less frustrating and more profitable life under this system of contract, for by controlling design and construction and the flow of informa-tion required for production he is enabled to function more efficiently thereby facilita-ting an adequate profit and, secondly, for sheer speed from conception to completion some building owners are persuaded that this is a better method than the generally accepted one of competitive tender. I might add that, heretical as it may sound, to many building owners the fact that the building may suffer aesthetically is of no great importance provided it functions well, and moreover the fact that by spurning competition theoretically he might pay a competition theoretically he might pay a bit over the odds does not matter to him provided the finishing price is within his budget and he gets his building on time—two phenomena generally capable of fulfilment by a competent building firm given full control of the project.

The dilemma, of course, is that by insisting on a competitive tenders which is

ing on a competitive tender system which is

frustrating and unprofitable to the builder, the architect has put a noose round his own neck for he has driven builders, any-how the larger ones, into producing more remunerative and less frustrating ways of doing work. He has done this without being able to find a competitive alternative where the interests of all parties coincide. The packaged deal, the consortia of

architect, quantity surveyor and builder, the negotiated contract will all have their place in the future as will no doubt the growing civil engineering trend towards competition on a basis of design and erect. Two factors may well influence these trends: I wo factors may well influence these trends; first join education and, secondly, budget-ary control by which I mean the possibility not only of planning a building within given limits of expenditure but the capacity to control building costs so that the limits are not exceeded.

The degree to which contracts are carried.

The degree to which contracts are carried out by these means will depend on the competence of the independent architect on the one hand and the real, not fictitious, contribution which a builder can make if brought in at the design stage on the other. I do not wish to be sidetracked on the question of professionalism and in particular the professional builder, but I am inlar the professional builder, but I am in-clined to believe that with better education and a higher calibre of entry into building firms the need for independent watchdogs of high moral standing is likely to decrease

rather than increase.

It would be foolish to think however that It would be foolish to think however that we are likely to see the demise of the competitive tendering system. After all, the local authority and publicly employed architect, even if he does so against his better judgment, is generally forced to go out to competition. He is sitting fairly firmly in the saddle both now and in the future: no packaged deal for him and no noose round his neck, and is he not responsible for a large proportion of the building work of the country. His lords and ponsible for a large proportion of the building work of the country? His lords and masters will by tradition, statute and regulation continue in many cases to force him to put numbers of builders into competition. The glimmer of hope here is the growing official realisation at Treasury level of the need for long-term budgeting and financial allocation for building programmes: with such a state of affairs it will be possible for public and local authorities really to provide documentation to a limited number of tenderers in such a way that sane and intelligent pricing such a way that sane and intelligent pricing will result, the estimator knowing that the chance of extras will be few if any. Estichance of extras will be few if any. Estimating itself, influenced by the growing collection of work values and feed-back of costs, will assuredly become more scientific in the years to come. Alas, scientific estimating based on historical costs in itself does not ensure obtaining the contract; in fact it might result in never obtaining a contract at all, and the man who goes in at less than cost will no doubt live to fight another day. His days, I submit, are however strictly limited by the competence of the architectural profession itself.

The Role of the Architect

Unlike some people, I am fairly con-vinced that the problems confronting the architectural profession are rivalled in their complexity only by those confronting the trade unions, and that a scientific analysis of these problems and a bold decision to

of these problems and a bold decision to shape long-term policy is of vital importance not only to the profession itself but to the well-being of the industry as a whole. If the architect of the future attempts all the functions at present attributed to him, great architecture and efficient building will be a matter of luck. The architectural profession is trying to do too much in its eagerness to retain its leadership. It is in fact taking upon itself ship. It is in fact taking upon itself responsibilities which do not rightly belong to it in modern times, and its future to my mind depends on its shedding some

rather than attracting more.

There are but few who can combine the qualities of artist and business man; there are many who can combine the qualities of artist and technologist. There are indeed

large architectural partnerships where these qualities are to be found among the partners combined, but what hope has the individual of assimilating the knowledge and gaining the experience at present demanded for 6 per cent.

What is then required of the average architect in an industrialised building industry? Above all he must be a technologist and on the design side he must be as gist and on the design side he must be as intimately concerned with the design of the component parts that go to make the building as in the building itself, and to retain his place as leader he must not try to do everybody else's job but essentially he must have powers of decision, communication and co-ordination. Many buildings will become more not less complex in the will become more not less complex in the years to come and the good architect, by accepting the limitations of his own knowledge, will be the one who knows when to seek advice from others and how to use that advice when obtained. If he attempts in his training really to master such sub-jects as engineering, estimating, costing and production management, to name but a few, he is attempting the impossible; these are the spheres of the consultant, the quantity surveyor and the builder, by no means forbidden spheres but where the combined expertise required is quantita-tively beyond the capacity of most men.

Whether the architect of the future remains independent of the building owner, whether he is employed on the staff of the building owner—and that building owner may be a government department, a local authority or a private concern—whether he finds himself as a principal in the building company. I suggest the above

a building company, I suggest the above considerations apply. considerations apply.

What then is his chance of leadership? Superior intellect or knowledge and a professional status will be insufficient by themselves to ensure the architect's position in future society, and by surrounding himself with a mystique of aesthetics he will lose, not gain, the confidence of the building public: without that confidence the chance of leadership will disappear for ever. To gain it he must show that he is capable of leading a team which can produce in time and at a predetermined price a building that looks well, functions well and is well built. If he can't, then he must not be surprised if the public turn elsewhere, and for the answer to this he must look at his present training. look at his present training.

But no good will ever come builders disparaging architects and vice versa: accusations of incompetence on the one hand and roguery on the other can only do a disservice to the industry as a whole at a time when jointly we should be seeking the goodwill of those who give us

our bread and butter.

Ioint Education

The lip service paid to joint education in architectural circles and the failure really to face up to it has led me and possibly others to the conclusion that it is the belief of the architectural profession that they will be the been because the profession of the architectural profession that they will be the been because the profession of the profession of the profession of the profession that they will be the been because the profession of the profession will be the losers by such a move and that it can best be resisted by inactivity.

What are the true reasons for the shyness of the profession's official body in this matter? Is it because they do not think matter? Is it because they do not think joint education necessary? Is it because they do not know how to set about it? Is they do not know how to set about It? Is it because those in charge of architectural education believe that they personally would be the losers by such a move? Is it the vested interest of architectural schools in the status ouo? Is it because deep down there is a feeling that there will be a lose of extrus or easte and a debaing. be a loss of status or caste and a debasing of the architectural coinage? Or is it simply a belief in the inevitability of gradualness and a hope that "things will sort themselves out if left alone"?

These are dangerous and I suggest short-sighted concepts for, if my thesis is right, the future of the profession will be in jeopardy unless it accepts the fact that efficiency will result only from an analysis of the requirements of the industry, and a policy of training to meet those requirements.

375FT. CHIMNEY STACK BUILT IN RECORD TIME

By D. H. Walker, B.Sc.(Eng.), A.M.I.C.E.

PETROCHEMICALS, LTD., a wholly owned subsidiary of the Shell Chemical Company, are increasing the capacity of the power plants at their Carrington works to cater for major extensions to their chemical plants.

The time allowed for construction of these plants had been reduced to a minimum and this meant that the boiler chimney had to be ready before the end of January, 1960, when the boiler was due to be fired. Before the boiler could be fired, however, connections had to be made to the chimney and con-

ever, connections had to be made to the chimney and consequently it was desirable to have the construction completed by the end of December, 1959. Tileman and Co., Ltd., were approached to determine if this programme was feasible or whether a temporary steel stack should be erected.

Tileman's stated that the

be erected.

Tileman's stated that the normal construction period required for a reinforced concrete chimney of 375ft. was nine months. They offered to undertake the construction within a period of five and a half months, but at the same time pointed out that they had not built a 375ft, stack in this time before. time before.

The contract was let to Tileman and Co., Ltd., with a bonus or penalty clause referring to January 15, on the understand in g that the foundation would be ready for them by August 4. The client promised to give every assistance to the contractor and to ensure an early supply of electricity and other services.

The contractor considered that the first 45ft, of the chimney would determine the speed of construction and so allocated the responsibility to two of his engineers. They immediately sent on site the general forement in order that general foreman in order that he could become completely familiar with his surroundings. He was also to supervise the erection of the men's cabins

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and to carry out other preliminary jobs, thus leaving the contractual period completely free for construction.

All materials were then ordered, samples of sand and aggregate were obtained and these were sent to the laboratories of Messrs. Sandberg of Grosvenor Gardens, Messrs. Sandberg of Grosvenor Gardens, London, consulting engineers, specialising in concrete, whose services had been retained for the contract. They were told the speed at which the job had to be completed and undertook the responsibility for obtaining the correct concrete. The main requirement was that the concrete should have sufficient strength to enable the shuttering to be stripped some two hours after the completion of each 7ft, 6in, lift. This was too short a time for any of the normal chemical methods of accelerating strength development and a mix had to be designed which could produce the necessary initial strength. strength.

Stack Design

The drawings which had been prepared by Tileman's were finalised and submitted to the client; these met with their approval. The drawings detailed a concrete chimney

stack 375ft, in height from ground level and with a plan section of a pure circle whose outside diameter at ground level was 31ft. outside diameter at ground level was 31ft. and outside diameter at the top was 15ft. There were two large flue entries diametrically opposite each other at 20ft. above ground level. A vertical brick baffle wall 41ft, high separated the two flues. Two access doors were shown at the base to facilitate cleaning of the sloping brick floors. An acid resisting brick lining was



Stack under construction. The chimney on the left is 200ft. high

indicated for the whole height, this being divided into fourteen sections each 30ft, high and carried on concrete brackets. The brackets detailed were an integral part of the concrete shell. Provision was made to isolate the airspace between the brickwork and the concrete from the interior of the stack; this airspace being ventilated from the outside. The total quantity of concrete to be placed was 650 cu, yd, and the number of bricks to be laid was 150,000 giving a total weight for the stack of 1,800 tons. Provision was also made for

I,800 tons. Provision was also made for two lightning conductors, a radio transmission aerial, a cast-iron cap and steeple-jack ladder dogs at 7ft. 6in. centres.

The engineers next made a detailed programme for every operation, calculating from a basis of man hours and the knowledge that the maximum number of men who could be employed in the confined working space was eleven. It was evident that double shift work would be necessary and that a 7ft. 6in. Lift must be concreted every 24 hours. In order to obtain this progress steel shutters were utilised on the outside; these had the were utilised on the outside; these had the

added advantage of providing a true circle in plan. Timber shutters comprised of flats and rounds were used on the inside, these being more adaptable at the brackets. Messrs. Sandbergs, after carrying out numerous tests on the materials, finally produced a concrete mix which gained its strength from the mechanical interlocking of the aggregate; this had aggregate to cement ratio of 5½:1 and gave a mean crushing strength of 4,000lb/sq. in. at one day. This mix was a gap-graded concrete to be placed by hand and compacted easily with a vibrator. It was also necessary to paint the concrete after the shutters were stripped with a curing membrane. Arrangements were made with Manchester University to carry out the crushing of test cubes at 24 hours for concrete taken from each 7ft. 6in. lift.

A drawing was prepared detailing an eight leg internal scaffold tower incorrects.

Ad drawing was prepared detailing an eight leg internal scaffold tower incorporating an ACE hoist actuated by a 30-cwt. winch; a goods platform was to be used up to 100ft, after which a passenger cage would be fitted.

All the necessary profile.

winch: a goods platform was to be used up to 100ft, after which a passenger cage would be fitted.

All the necessary preliminary work had been completed prior to the starting date of August 4, when the client had to inform the contractor of unforeseen problems in the piling of the foundation and this presented a delay. This delay was finally overcome and the foundation was completed on September 14. The contractor said he was still prepared to complete the stack by January 15. The delay had given the contractor an opportunity to collect a labour force of the correct calibre who had been farmed out to other contracts awaiting the starting date. It was now necessary to work a three shift system with overlapping periods in order to obtain the necessary man hours, and also to work through all weekends. Shiftwork entailed supplying transport to collect and return the men to their lodgings and arranging for their meals at the correct times; the client provided this latter service.

The three crews were each placed under the l'adership of an experienced working foreman assisted by a charge-hand and a healthy rivalry soon developed which was exploited by the general foreman. A personal letter was written to every man engaged on the contract setting a target date for the completion of the shell and stating the bonus he would earn if this date was mit. A rise and fall clause was included for an earlier or later completion. A similar target was set for the brickwork, A programme was posted in the mess hut showing exactly what work was necessary in order to make the target.

in order to make the target.

Construction Progress

The kicker was concreted on Seotember 15, and the reinforcing steel was then fixed; temporary access opening and access doors position d: 60ft, of scaffold tower erected, and all the shutters set up and checked. The first 7ft, 6in, lift was poured on September 19, a Comet hoist being used to avoid breaking the ring of shutters. As expected, progress was slow until the flues had been passed but a tremendous amount expected, progress was slow until the flues had been passed but a tremendous amount of difficult work was achieved. The 45ft, level was reached by September 30, and the men were sent home for a long weekend; this was the only break during the contract. A two shift system was started from this date onwards and the crews concreted a 7ft, 6in. lift daily, except at the brackets where they took two days. No major difficulties were experienced, work was carried on through all types of weather but in the main the temperature was mild. There were some setbacks due to high winds which made the lifting and fixing of (Concluded on next page)

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£1.25M. DOWNING STREET REBUILDING SCHEME INCLUDED IN CIVIL ESTIMATES

A List of Proposed Works

THE £1.25m. rebuilding scheme for 10, 11 and 12 Downing Street and Treasury Whitehall Buildings is included in the following list of proposed works which appear in the 1960-61 Civil Estimates, Class VII. Common Services (Works, Stationary,

ADMIRALTY.—Ensleigh: Conversion of solid fuel to oil-fired heating, £16,500; Royal Naval College, Greenwich: District heating scheme, £52,500.

College, Greenwich: District heating scheme, £52,500.

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD.—Carmarthen: New office building and site, £76,500. Fisheries Research, Lowestoft: Additional offices and laboratories at Hamilton Dock, £15,000. Royal Botanic Gardens, Kew: Conversion to oil-fired heating, £45,000; Filmy Fern House—new house, £15,000; house 4 reconstruction, £24,300; houses 11 and 12—extension to Economic House, £15,000. New Jodrell laboratory and lecture theatre, £85,000. Veterinary investigation centre: Truro, £28,000. Weybridge: Central Veterinary Laboratory: Additional accommodation for small animals. £40,000; alterations to water supply, £20,000; extension to incinerator, £12,000; extension of heating and electrical services, £12,000; new tissue culture laboratory and egg incubator house, £32,000; new workshop and garage, £16,000.

BRITISH MUSEUM.—New laboratory, 39-40 Russell Square, W.C.2, £68,000; reconstruction of central saloon, Roman Britain, etc., £90,000.

CENTRAL OFFICE OF INFORMATION.—Lincoln

E90.000.

CENTRAL OFFICE OF INFORMATION.—Lincoln House, S.E.1: Occupational services, £13.000. CUSTOMS AND EXCISE DEPARTMENT.—Customs line between Northern Ireland and Republic of Ireland, Killeen: New land boundary post, £17.200. Dover, Southern House: Alterations, £25.000. Hull. Customs House: New building, £101,500. Shoreham: Extension of Customs House; £18,300. Southampton, Customs House: New building, £140,000. Tilbury Docks, 4, 5, 6 and 7a: New offices, £22,000. offices, £22,000.

offices, £22,000.

MINISTRY OF DEFENCE.—Joint Services Staff College, Latimer: Sleeping quarters, £60.000.

MINISTRY OF EDUCATION.—Apsley House: Adaptations for Park Lane Improvement Scheme, £38,500.

Scheme, £38,500.

General Register Office.—Tichfield R.A.F. Station: Adaptations for 1961 Census. £20.000. INLAND REVENUE DEPARTMENT.—Basildon: New office building. £31.000. Somerset House: East Wing, new passenger lift. £11.500: West Wing, new passenger lift. £13.500. West Hartlepool: New office building. £37.600.

**H.M. Stationery Office, price 7s.

MINISTRY OF LABOUR.—Airdrie: Provision of office accommodation, £28,000. Duchess of Gloucester House, Isleworth: Garage accommodation, £17,400. Liverpool, Aintree: Adaptations for Industrial Rehabilitation Unit, £10,700. Plymouth Employment Exchange: Purchase of building, £55,000. Waltham Cross Employment Exchange: Extension, £14,000. NATIONAL ASSISTANCE BOARD.—Eastleigh, Hants: Rehousing of reception centre, £17,000.

NATIONAL GALLERY AND NATIONAL PORTRAIT GALLERY. — Connection to district heating scheme, £10,000.

scheme, £10,000.

NATIONAL MARITIME MUSEUM. — Royal Observatory, Greenwich: South Wing adaptations and restoration, £32,000.

OFFICIAL RESIDENCES AND TREASURY.—Reconstruction of 10, 11 and 12 Downing Street and Treasury Whitehall Buildings, £1.25m.

MINISTRY OF PENSIONS AND NATIONAL INSURANCE.—Glasgow, Cowlairs Road: Extension, £16,500.

PUBLIC RECORD OFFICE.—Bourne Avenue, Hayes: Building Y, adaptations, £76,000.

Chancery Lane: Purchase of additional land, £50,000.

Chancery Lane: Purchase of additional land, \$50,000.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH.—Aberdeen, Torry Marine Research Station: Extension to laboratories, £125,000. Building Research Station, Watford: Administration building, £175,000; canteen extension, £12,000; new library, £40,000: Physics Group: New buildings, £365,000: Pilot Scale Bays I and 2, £50,000. Hull, Wassand Street: Extension to Fish Laboratory, £30,000. Hydraulics Research Station, Howbery Park: Main hall, east and west wings and offices, erection, £490,000. National Engineering Laboratory, £320,000; erection of Creep Laboratory, £400,000; erection of Creep Laboratory, £220,000; erection of Store, £20,000; provision and installation of No. 2 motor generator set, £35,000. National Physical Laboratory, £700,000; hydrofoil working section for cavitation tunnel, £25,000; installation of Lithgow Tunnel, £15,000. National Physical Laboratory, £25,000; atterations and additions to Ministry of Works Maintenance Depot, £85,000; new building for Basic Physics Division, £350,000. Warren Springs Research Laboratory, Stevenage: Extension to workshops and stores, £45,000.

SCOTTISH HOME DEPARTMENT. — Aberdeen, Torry, Marine Research Laboratory: Extension, £56,000.

Torry, Marine Research Laboratory: Extension, £56.000.

SIOn, £36,000.

H.M. STATIONERY OFFICE.—Basildon: Acquisition of site and erection of new printing works, £350,000.

TATE GALLERY.—New office accommodation and kitchen approach, £21,000.

(Concluded from previous page)

the outside shutters a perilous operation but the lost time was regained. The concrete was ideal for the class of work and it was found that the shutters could be stripped comfortably at four hours. The hoisting time became considerable as the height increased but the quantity of con-

height increased but the quantity of con-crete cast decreased to offset this increase. When it became evident that the job was going smoothly the contractor was asked whether the completion date could be brought forward. It was finally decided to make Christmans Eve the new target date

date,
Work was started on the brickwork on
November 10, but it was impossible to supply the bricklayers from the hoist since
this was in operation full time for the
concreting crew. However, bricks were
laid at the flue level and the brick arches
over the flues completed by using two midover the flues completed by using two mid-

The concrete shell was completed and the flag put up on November 30, a total of 73 days.

The majority of the brickwork was carried out after November 30, by two crews each consisting of four bricklayers. Difficulty was experienced at this time in obtaining sufficient acid resisting bricks; it was found necessary to obtain 60,000

bricks from the south of England to supply the bricklayers. Unfortunately, the coef-ficient of expansion of these bricks was exactly twice that of the bricks supplied in the north. This meant that each bracket had to be completed in one type of bracket had to be completed in one type of brick to avoid differential expansion. Care-ful stockpiling was essential to avoid con-fusion which entailed extra work. During 20 days the eight men laid 140.000 bricks and in order to reach the required com-pleted date worked of their own accord "Ghosters" (i.e., 36-hour shifts with 12-hour

High winds made it difficult to fix the lightning conductor tapes, this work being done from cradles, but on December 20. the work was completed. The scaffold tower was stripped out in three days and the chimney officially handed over on December 24.

During the construction safety precauoccurred.

The contract took 101 days showing a saving on the contractual time of 64 days.

The speed with which the above contract was carried out is a considerable technical achievement, due in no small measure to the harmony and enthusiasm shown between client and contractor, and is a tribute to the British working man.

MINISTRY OF TRANSPORT. — Coastguard tations: Falmouth, adaptation of ex-W.D.

married quarters to provide six-house station, £11,500; Lerwick, erection, £21,000.

WAR OFFICE.—Chelsea Royal Hospital: Reconstruction of N.E. wing as ward block, £80,000. Whitehall, S.W.1: Renewal of goods lift, £11,500.

MINISTRY OF WORKS.—Kensington Depot: ictoria and Albert Museum, new building, £34,000.

Albert Museum, new building, £34,000.

GENERAL. — Baynards House, Chepstow Place: Conversion to oil-firing, £20,000. Cornwall House: Conversion to oil-firing, £16,300. Home Office Block: Connection to Whitehall district heating scheme, £26,000. Acquistion of sites for and erection or adaptation of accommodation for jointly occupied regional or local offices: Birmingham. Selly Oak, £41,000; Bishopbriggs, £16,500; Borcham Wood, £15,000; Carlisle, £161,500; Chatham, £16,000; Dewsbury, £78,000; Dingwall, £18,500; Glasgow, Marland House, £19,000; Hatfield, £70,000; Havant, £66,000; Hereford, £135,000; Kilsyth, £22,500; Kirkby, £12,900: Middlesbrough, £156,000; Neath, £13,000; Nuneaton, £72,000; Poole, £165,000; Ruislip, £80,000; Romford, £160,000; Rothesay, £45,000; Scunthorpe, £91,000; Sheffield, £13,000; Slough, £145,000; Stevenage, £50,000; Stornoway, £15,000; Tunbridge Wells, Hawkenbury: Permanent redevelopment, stage 1, £160,000.

bury: Permanent redevelopment, stage 1, £160,000.

PUBLIC BUILDINGS OVERSEAS.—Addis Ababa: Provision of new offices and residential accommodation and alterations to compound, £60,000. Baghdad: Extension of Chancery Office, £30,000. Belgrade: Construction of garages and workshop, £35,000. Berne: Erection of new embassy offices. £100,000. Colombo: Erection of offices, £150,000. Dublin: Erection of Staff flats, £100,000. Muswait: Erection of staff flats, £100,000. Muswait: Erection of Staff flats, £100,000. Muswait: City: Erection of Ambassador's residence, £60,000. Moscow: Adaptation of premises for Commercial and Information Centre and exhibition space, £20,000. Pakistan: Removal of capital to Rawalbindi, consequential works, £50,000. Rome: Erection of offices, £300,000. Saigon: Erection of new embassy offices, £125,000. Tokyo: Erection of new embassy residence, £90,000.

STILL TOO MUCH MEDIOCRE HOUSE BUILDING

"There is still too much building that is only passable," stated the Minister of Housing and Local Government, Mr. Henry Brooke, when he opened a one-day conference in London last week on Homes of the Future. The conference, which was sponsored by the Federation of Registered House-Builders, coincided with the inauguration of the first National Homes Week, organised by the same body.

The building industry as a whole must set its sights at a higher level than the

set its sights at a higher level than the passable and the mediocre and make certain that every house was well constructed and an asset to its owner, continued the Minister.

"Anvone who buys a house covered by certificate of the National House-Builders a certificate of the National House-Builders Registration Council has an assurance that it is well built," said Mr. Brooke. But there were still far too many builders who did not take part in this scheme. Many of them might be very good builders, but the ordinary man buying a house had no way of knowing which were—except by experience, and then it might be too late. He thought the time might well come when the public would feel that a certificate of

He thought the time might well come when the public would feel that a certificate of this kind should be a normal and natural feature of any sale of a new house. If the house-builders willed it, the certificates could become the hallmark of their service to the public.

Referring to good design and the need to meet the demand for home ownership not only in quantity but in quality, he pointed out that the houses built today were being built for 50 or 100 years.

"A housing estate," Mr. Brooke stated, "should not be simply a piece of land to be cut up into building plots. It should be thought of and planned as a whole, so that the houses in it gain a collective attractiveness as well as an individual one. In this the architects and builders have a responsibility not just to house-purchasers, but to the public at large."

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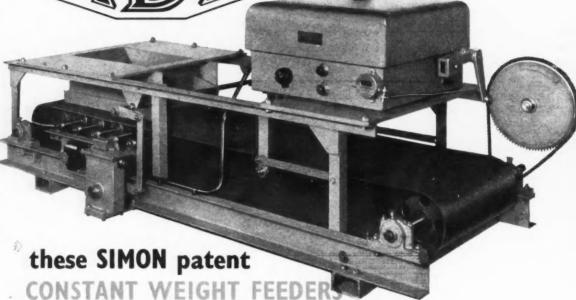
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Correspondence

FIRM-PRICE TENDERING: SUCCESSFUL OR OTHERWISE?

DISCIPLINE INVOLVED

To the Editor of "The Contract Journal."

Sir,-Firm-price tendering imposes cersin disciplines—and discipline is some-times irksome. This is apparent from some of the replies received by *The* times irksome. This is apparent from some of the replies received by The Contract Journal in its recent survey. The results of surveys depend, of course, on the field of investigation: the N.F.B.T.E. has also carried out a limited survey on this subject. The Past-President, Mr. T. V. Prosser, would not have made the statements he made had he not certain evidence at his disposal. He was certainly not singling out official architects in his criticism nor was he setting up builders as paragons of virtue. In fact, the Ministry of Works, who set the ball rolling in this direction has by full documentation probably done more to make firm-price tendering successful than any other body. There is little doubt, however, from the information at our disposal that quite a number of clients and archiever, from the information at our disposal that quite a number of clients and architects have jumped on this particular band wagon without being prepared to accept fully their own responsibility in making a success of such a procedure.

Let us agree at once that the disciplines involved must be accepted by the client and builder as well as the architect: if the client is not prepared to give sufficient time to the architect for his own planning and if the builder is inadequately cognised.

and if the builder is inadequately organised to use the opportunities presented by full documentation then the system will fail despite a competent architect. But of the three involved, the key man to success must be the architect.

must be the architect.

Successfully applied, firm-price tendering may well result in lower costs, not because any increase comes out of the pocket of the builder but because the prerequisites of firm-price tendering are the prerequisites of efficient building: if applied at half-cock it will probably cost more than under a contract with a fluctua-tion clause. The time of danger for this method of letting contracts is when there are signs of inflation or when there is too much work on the drawing board.

too much work on the drawing board. The disciplines of this method of contracting include a clear-cut brief from client to architect, sufficient time to translate this brief into drawings and quantities, a quick acceptance of the tender, the minimum of prevarication and change, detailed planning on the part of the builder, In fast job and a quick settlement of the final account. Once these disciplines become matters of habit for all contracts irrespective of a firm-price, then an impact will have been made on building an impact will have been made on building efficiency generally.

But please do not let us be so naïve as to believe that because builders have not invoked their rights under the R.I.B.A. Form of Contract to take legal action against architects or that they have not published lists of offending persons that everything in the garden is lovely. Let us all accent some wayknesses and set about all accept some weaknesses and set about eradicating them.

Yours. etc., P. E. TRENCH, Director, National Federation of Building

THREE PRINCIPAL PROBLEMS

Trades Employers.

To the Editor of "The Contract Journal."

Sir.—It is encouraging to read such refreshingly frank expressions of opinion from the leading architects of local and public authorities on the need for full

documentation in the successful operation of the policy of firm-price tendering.

It is even more interesting to find that almost without exception they hold similar or reconcilable views about the advantages to be gained and the problems encountered.

The problems seem to fall into these principal categories, (1) staff problems, (2) short-term government planning—including delays in authorisations, and (3) the failure of some builders to respond to the advantages inherent in full documentation.

Regarding staff problems, this affects all architects, whether public authority or private practitioners and is the result, in my opinion, of training too many architects, without a corresponding and essentially complementary force of chief assistants and good draughtsmen. It would seem that there is a void in the curriculum seem that there is a void in the curriculum of training schools and colleges which must be filled if any improvement is to be obtained in the future. Training an architect is an expensive business—his expert qualifications should not be misexpert qualifications should not be mis-applied simply because there are insuffi-cient members of supporting personnel. Moreover, as the architect is the acknow-ledged leader of the building team he has a responsibility to set an example to the remainder of the team and to hold himself above criticism by his team mates. He self above criticism by his team mates. He can best fulfil this important function if he is adequately supported by the right type of members of staff throughout the chain of administration. The industry would be glad to join with the profession in considering educational policies which could result in providing the supporting staff.

Short-term government planning is one f the most restricting of influences on the activities of public authority architects and it must, at times, strike despair in their hearts. I have frequently drawn their hearts. I have frequently drawn public attention to the problem and many of us were encouraged to believe we were seeing the end of annual planning when two- or three-year terms were introduced for schools and hospitals. But this is not enough; as educational, health, housing and most other forms of public authority. not enough; as educational, health, housing and most other forms of public authority building, yes, even prisons! are directly related to the needs of the population there would seem to be no valid reason why all such building could not be related to five-year programmes. If all concerned continue to advocate the benefits to be derived from such a policy we may ultimately get what the architects and the industry know to be right.

As to the weaknesses of some builders.

As to the weaknesses of some builders, I accept the point that there is bound to be a fall-short in standards of efficiency in such a vast industry as ours. But to some extent we have suffered from staff problems too, if for somewhat different reasons compared with architects. For a period of 14.15 years from 1329 builders reasons compared with architects. For a period of 14-15 years from 1939, builders were unable to employ the full advantages of planned works programming because half the time they did not know whether half the time they did not know whether we were going to get the materials or not. Looking back, it was a pretty chaotic period and planning engineers were not trained in adequate number, if at all. But we have identified this problem and the industry is now engaged in an immensely expanded educational programme which should result in all round improvement in the standards of efficiency over the next five years.

over the next five years.

Finally, my statement was not confined to public authority architects, who in the main have an excellent record for providing our members with essential information in good time. It would be a much

happier industry if all architects could copy their example! Then we could take the full commercial risk implicit in competitive contracting for almost any size of job.

Yours, etc., THOMAS V. PROSSER, Past-President, National Federation of Building Trades Employers.

BOROUGH SURVEYOR'S EXPERIENCE

To the Editor of "The Contract Journal."
Sir,—Ten years ago this authority, like many others, was engaged in the housing drive, and I well remember the endless lists of so-called basic materials submitted lists of so-called basic materials submitted with every tender. I have even seen nails and petrol scheduled. There was a period when this authority made use of a list of basic materials which had been recommended by the Ministry of Housing. Even this document, however, after a couple of years, proved irksome to both staff and contractor as many hours were averaged in contractor as many hours were expended in checking invoices, very often only to find that the increases were cancelled by the

that the increases were cancelled by the decreases.

From about 1954 onwards I began whittling the schedule until, in 1956, my contracts were firm priced, except for bricks, wages and other emoluments. By the end of 1957 I was getting contractors tendering "fixed prices" quite willingly.

I am inclined to the view that firm-price tendering is here to stay, with the possible exception of very expensive schemes of say two or more years' duration which some consideration might be given to the wages and other emoluments.

and other emoluments.

Yours, etc. DONAL M. O'HERLIHY Borough Surveyor, Tynemouth.

TALKING OF SAFETY

To the Editor of "The Contract Journal."

Sir.-Dragee's conversational style of Sir,—Dragee's conversational style of descriptive writing about safety measures, which ought to be observed, possibly does a lot of good. The accident and death rates in industry are pretty shocking and possibly 99 per cent. avoidable, without holding up the job or putting up the

The other day, watching some painters going over an asbestos roofed factory it could be seen how those men made themselves more or less (chiefly less) secure. Their ropes were mainly hitched to the

Their ropes were mainly hitched to the end of protruding bolts. There was nothing else rigged or available.

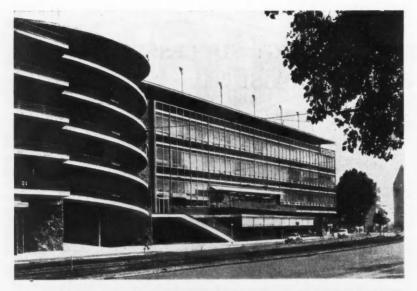
Now, if securing points are built in on all buildings the future risks in maintenance will be largely eliminated—and that seems to be something easy and cheap to do but is almost never done. Shipbuilders and sailors here got together on that point years ago. Why not equal co-operation in the building and civil engineering trade?

Yours, etc., G. B. B. RICHEY,

24 Argyle Road, Sevenoaks, Kent.

MOTORWAY PLANNING POLICY

The Minister of Transport has informed the County Councils Association that where a motorway involves more than one county he intends to appoint consulting engineers to unify control.



CAR PARKING IN THE CITIES



B.R.F. Exhibition Showed how World is Tackling Problem

ORGANISED by the British Road Federation, the Car Parking Exhibition held last week at the Institution of Civil Engineers, showed how towns and cities throughout the world are dealing with the car parking problem. Exhibits included 35 models of multi-storey and underground parking



garages and photographs, plans and drawings of some 250 garages, motels, motorway service areas, shopping centres and drive-in banks and post offices assembled from many parts of the world.

Seen at the exhibition were:

(Top left) Kaufhof Garage, Cologne, Germany. This garage has five storeys above ground level and occupies an approximate site area of 180,800 sq. ft. The average number of vehicles parked is 130 per hour.

(Centre left) "Downtown Centre" Garage, San Francisco, California, U.S.A. This privately owned and operated garage provides a total of 1,374 car spaces on 11 floors, including basement and roof. The garage can take in 20 cars per minute and discharge 25 per minute.

(Bottom left) Parking Garage "Grottenau," Augsburg, Germany. The approximate site area of this privately owned and operated ramp-type garage is 48,440 sq. ft. It provides 333 car spaces. Customers park their own cars.

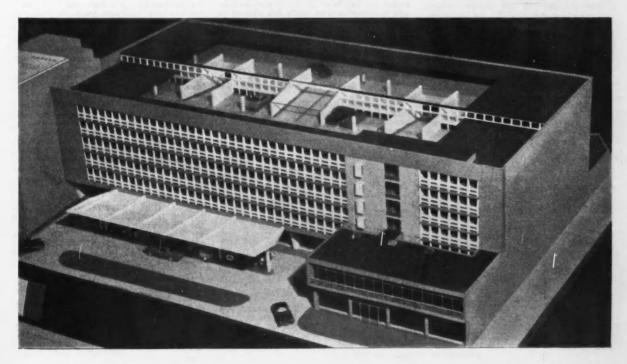
(Top right) Parking Garage at Exeter, Devon. Four shops, a public arcade, workshops and stores are included in this garage, which occupies an irregular site area of about 17,000 sq. ft. Space is provided for 500 vehicles. Each car space cost about £150; cars are both attendant and customer-parked.

(Centre right) Roof parking on shops in Corby New Town, Northants. The Development Corporation have included roof parking for 45 cars in their scheme for the New Town centre; this scheme comprises a five-storey block of shops and flats, a one-storey block of shops and a two-storey supermarket.

(Bottom right) Model of Proposed Garage, Aldersgate Street, E.1. This garage, occupying an approximate site area of 33,000 sq. ft. will have seven storeys above ground and one below and will provide space for about 700 cars. It will be possible to take in and discharge 500 cars per hour. Cars will be attendant and/or customer-parked. The garage will be owned and operated by a private company and is expected to be completed early in 1961.







MULTI-STOREY PARK LANE HOTEL CONTRACT

DEMOLITION work is now in progress and construction is expected to start shortly on a tower hotel of 30 floors proposed at Park Lane, London, by New City Properties, Ltd.

The building, which still has to receive final approval for some planning details, will be situated between Hertford Street, Stanhope Row, Pitts Head Mews and Park Lane, and will consist generally of a Y-shaped 24-storey tower block supported on pillars above a two-storey podium. Below ground will be three levels of basements containing parking space for about 360 cars, storage space and mechanical and heating plant.

Internally the hotel will provide about 506 bedrooms, with a top floor club and restaurant, and ballroom and banqueting facilities for 1,350 people on the first floor. To be known as the London Hilton Hotel, it will be leased to Hilton Hotels International, Inc., when it is completed in the middle of 1962. The total cost, including land acquisition, is about £6m., and the actual building cost is estimated at about £3m.

Lewis Solomon, Kaye and Partners, Thavies Inn House, Holborn Circus, London, E.C.1, are the architects, and the structural consultants are W. V. Zinn and Associates, Collingham House, Eagle Street, W.C.1. Token Construction Co., Ltd., 68 Mount Street, W.I, are the main contractors. contractors.

PRESENTATION OF R.I.B.A. GOLD MEDAL TO PROF. NERVI

The president of the Royal Institute of British Architects will present Professor Pier Luigi Nervi with this year's Royal

Pier Luigi Nervi with this year's Royal Gold Medal for Architecture at a ceremony to be held at 66 Portland Place, London, W.1, on April 5 at 6 p.m.

While Professor Nervi is in this country the R.I.B.A. will hold a reception for him and he will also attend a reception at the Architectural Association. In addition he will be entertained by the Italian the Angle Italian Society and the he will be entertained by the Italian Institute, the Anglo-Italian Society and the Cement and Concrete Association.

As part of the arrangements connected with the award an exhibition of Professor Nervi's work will be held at the R.I.B.A.

POLYTECHNIC SYMPOSIUM ON HELICOPTERS

A two-day symposium will be held on April 8 and 9 by the Department of Civil and Mechanical Engineering, The Regent Street Polytechnic, on the capabilities and

Street Polytechnic, on the capabilities and economics of helicopters.

The primary aim is to enable those attending to assess the worth of the helicopter as a transport vehicle in the many specialised roles for which it appears peculiarly suited. Lectures to be given at the symposium will cover the subjects of Basic Performance; Operating Costs; Flying Qualities; Safety; and Ground Organisation

Enrolment forms may be obtained from e Organising Lecturer, Department of ivil and Mechanical Engineering. The fee is £3 3s.

E.T.U. BANS OVERTIME

About 40,000 men on building sites throughout the country are involved in an official overtime ban which was enforced this week by the Electrical Trades Union. The ban is designed as a protest against the employers' refusal to agree to bonus payments for electricians in line with those given to other building craftsmen. Originally it was intended to begin a series of guerrilla strikes as well, but the union leaders decided against this last week.

CONTRACTING OUT OF NEW PENSION SCHEME

Early Application Important

EMPLOYERS wishing to contract out of the new graduated pension scheme but who do not apply in sufficient time will have to pay graduated con-tributions from April, 1961, when collection of these contributions starts, until such date as a certificate is issued

and takes effect.

Answering a Parliamentary Question last week about the progress of arrangements for contracting out under the National Insurance Act, 1959, the Minister of Pensions and National Insurance, Mr. John Boyd Carpenter, said that applications to the Registrar of Non-Panticipating Employments for a certificate might be made at any time, whether before or after April, 1961. But employers who wished to have certificates in force by then should allow sufficient time in making their application for the Registrar to deal with them. In cases where a certificate, even though

applied for, had not been issued, graduated applied for, had not been issued, graduated contributions would be payable from April, 1961, until such date as the certificate was issued and took effect. Mr. Boyd-Carpenter said that the Registrar had been available to employers since last July for informal consultations about the requirements for contracting out.

Road Accidents

Road Accidents

Mr. Janner asked the Minister of Transport if he would give, expressed in vehicle miles, the fatality rate and the injury rate for M.1 and M.45, and for the comparable length of A.5 and A.45, respectively, to the latest convenient date; also similar figures for the same length of A.5 and A.45 for a comparable period before the motorways were open to traffic.

Replying, the Minister said that between November 2, 1959, and February, 1960, the fatality rate on M.1 and M.45 was .11 per million vehicle miles, and the injury accident rate was .9. No comparable figures were available for A.5 and A.45.

Mr. Janner: Is the Minister satisfied that the construction of the motorways has really improved the situation, and will he say how the matter is proceeding as regards the Leicestershire portion of the London-Vorkebirg Motorway?

the Leicestershire portion of the London-

Yorkshire Motorway?

Mr. Marples: I think, though I am not yet certain, that it has helped the accident rate. These figures should be considered with some reserve, as all the winter months motorway has been in the winter months and too short a time really has elapsed to reached a firm conclusion.

Roads (Expenditure)

The Chancellor of the Exchequer was asked by Mr. Hall what percentage of the total taxation imposed on road users, through the fuel, vehicle and purchase taxes, was devoted to road building and maintenance.

maintenance.

In a written answer, the Economic Secretary, Mr. Anthony Barber, replied that expenditure on road building and maintenance was not related in any way to particular forms of revenue. Expressed as a percentage of the revenue derived from the fuel, vehicle and purchase taxes imposed on road users, the amount spent on road building maintenance and associated road building, maintenance and associated road expenditure in the current financial year was about 19 per cent.

MOTORWAY INQUIRY

Minister of Transport has nounced that the public inquiry into the scheme to fix the line of the motorway between Chiswick and Langley will begin at Chiswick Town Hall on June 14.

Temperatures and humidities in pig houses are discussed in National Building Studies Research Paper No. 29, published for the D.S.I.R. by H.M. Stationery Office, price 1s, 9d. net.

Late Construction News

FREIGHT TERMINAL CONTRACT.—British Railways (London Midland Region) have placed a £217,000 contract with Sir Alfred McAlpine and Son, Ltd., 49 Waterloo Road, Wolverhampton, for the construction of a new freight terminal at Bradford Street, Walsall, and a new coal depot at Long Street, Walsall.

15-STOREY GLASGOW FLATS.-Subject to Scottish Home Office approval, John Lawrence (Glasgow), Ltd., 137 West Regent Street, Glasgow, C.2, are to build 306 flats in 15-storey blocks at Drumchapel, for the City Council, at a cost of £881,000.

Sussex College Buildings.—Working drawings are now being prepared, and tenders are expected to be invited in June or July, for the erection of a college house and a physics building at Stanmer Park, and a physics building at Stanmer Park, near Brighton, the first two buildings of the proposed University of Sussex. The cost of these buildings is estimated at £265,000 and £275,000, respectively. Consultants for the project are: Basil Spence and Partners, architects, I Canonbury Place, London, N.I. Ove Arup and Partners, consulting engineers, 8 Fitzroy Street, London, W.I.; and Reynolds and Young, quantity surveyors, 329 High Holborn, London, W.C.1.

DUNSTABLE FACTORY EXTENSION.—Vauxhall Motors, Ltd., are to extend their Dunstable factory by 509,000 sq. ft. Some 385,000 sq. ft. will be provided as the second floor to an existing building and an additional press shop, covering 124,000 sq. ft., is to be erected. The contractors for the scheme, which has been designed by Howard, Fairbairn and Partners, 81 Piccadilly, London, W.1, are Sir Lindsay Parkinson and Co., Ltd., 6 Lambeth Road, London, S.E.I. G. A. Dodd and Partners, 17 Railway Approach, London, S.E.I., are the consulting engineers. DUNSTABLE FACTORY EXTENSION.-

£600,000 BIRMINGHAM OFFICES.—Work is about to start on the erection of a large new office building at Edgbaston, Birmingham, for the Norwich Union Insurance Societies. The contract worth about £600,000 has been awarded to Mitchell Construction Co., Ltd., Peterborough, J. H. D. Madin, 83 Hagley Road, Birmingham, 16, designed the building which will be in two blocks, one of four and one of 10 storeys. Jack W. Stockings and Clarke, London House, London Street, Norwich, are the quantity surveyors, and F. S. Snow and Partners, 7 Thorpe Road, Norwich, are the consulting engineers. £600,000 BIRMINGHAM OFFICES.-Work

ARBROATH HOUSES.—Arbroath B.C. have accepted the £157,725 tender of R. Pert and Sons, Lower Balmain Street, Montrose, Angus, for building 82 flats in seven blocks at Wynds and Barngreen redevelopment

ROMFORD STORE REBUILDING.—Tenders are now being invited for rebuilding and extending department store premises at 66-72 Market Place, Romford, as section I of a reconstruction scheme, for L. F. Stone and Sons, Ltd. The architect is Roff Marsh, 125 London Road, Chelmsford, and the quantity surveyors, L. A. Francis and Sons, Vernon House, Sicilian Avenue, London W.C.I.

L.C.C. UNIT FACTORIES.—The L.C.C. are inviting tenders from selected contractors for the erection of two blocks of unit factories at Edenbridge, Kent. Plans are by the Architect to the Council, and the quantity surveyors are J. J. Stevens and Sons, 52 Ebury Street, London, S.W.1.

MIDDLESEX SCHOOL TENDERS.—Middlesex MIDDLESEX SCHOOL TENDERS.—Middlesex C.C. are inviting tenders for the erection of the Ambrose Fleming Secondary School at Enfield, estimated to cost about £252,000. Plans are by Whitfield Lewis, county architect, and quantities by Young and Brown, Roman House, London Wall, London.

TESTING OF CONTRACTORS' PLANT

Comprehensive Arrangements at M.E.X.E.

SINCE August of last year, under an arrangement made with the Federation of Manufacturers of Construction Equipment, the special experience and facilities of the Military Engineering Experimental Establishment at Christchurch have been offered to British manufacturers of contractors' plant for testing their products. After each test, the manufacturer receives a full factual report and a Certificate of

Test. Tests conform to prescribed test codes prepared by M.E.X.E. in conjunction with the Federation, and in accordance with such B.S.I. standards as are applicable. A condition of the contract is that from the time of arrival of the item until its final return to the manufacturer the test will be under the absolute control of the Establishment.

Establishment.

Testing of prototype machines can also be carried out, and advice and criticism can be obtained on design and development problems. The exact nature of this service is a matter for negotiation between M.E.X.E. and the manufacturer, but in most cases it will apply to equipment at an early stage of development and/or at the prototype stage, when it might be allied with a short test and ease of maintenance examination. Such a service tenance examination. Such a service



Coles crane ascending 1:4 gradient

Adjacent to this stability platform the visitors were shown an installation for defining the centre of gravity. A Vickers V100R tractor was driven on to this fore tained, and the total weight of laden equip-ment can be ascertained on site with a minimum loss of time during the opera-

tion.

Other demonstrations included an output test, using a Bray loading shovel, and a braking test in connection with a Goodwin Goliath crusher towed by a Scammell. For this operation the towing vehicle was equipped with a type of gun which fired a chalk pellet into the road at the moment of applying the brakes, allowing a true measurement of the distances involved to be made.

Dynamometer Car

An important test facility available at the Establishment is the use of a dynamometer car to record drawbar pulls of up to 8,000lb.

to 8,000lb.

The car is basically a Churchill tank, with turret and hull top plates removed to allow an instrument cabin to be fitted. A smaller diesel engine replaces the original motor, but the vehicle remains self-propelled. Two 70-h.p. oil pumps are driven by a power take-off from the transmission, and by throttling the output of these pumps a sensitively controlled load or drag is applied to the transmission of the vehicle under test. This drag is



Tracked dynamometer car attached to bulldozer

would be strictly confidential as between M.E.X.E. and the manufacturer.

Apart from the Christchurch head-quarters of M.E.X.E., with its metallurgical and materials testing laboratories, and the facilities for proving engine and materials testing aboratories, and the facilities for proving engines and mechanical and electrical equipment, the Establishment has at nearby Hurn an area of about 800 acres where testing arrangements for construction plant are among the most comprehensive in the world.

At this proving ground, visitors were recently shown many of the activities which are part of the civil test programme for construction equipment.

Test Facilities

The first of the demonstrations consisted of a hill-start and ascent by a lorry-mounted Coles crane of a specially formed 1:4 gradient with a bitumen surface, which remains nearly constant in wet or dry conditions, and a similar performance by a military loading shovel on a 1:3 slope. A grassed 1:2 slope is available for crawler tractor tests. Descents of these slopes were also made by the vehicles concerned. Following this, a stability platform.

Following this, a stability platform, designed to show the maximum safe angle of tilt and the critical angle for engine performance, was operated using a Euclid C6 crawler tractor equipped with a dozer blade as the subject. A further test which can be carried out on this platform determines the maximum static braking ability possessed by a machine.

and aft tilting platform until the point of equal balance was determined.

Weighing of equipment with a specially designed mobile weighing machine allows the imposed load on each wheel to be ob-



Stability platform in operation

capable of stalling the largest equipment on a special test track. The car weighs 35 tons, providing stability, adequate adhesion, freedom from vibration and ease of control.

Among the instrumentation of the car-Among the instrumentation of the car, the key assembly is the hydraulic cell and lever. The cell element consists of a rubber diaphragm spanning an annular gap between the base plate and the load plunger operated by a load lever. The cell plunger operated by a load lever. The cell is mounted on a vertical plate attached to which is the load lever, the whole plate being adjustable to meet the varying drawbar heights. A load lever pivot point is also adjustable to provide four ranges of maximum pull: 10,000; 20,000; 40,000 and 80,000lb. The cell is connected to a pressure gauge, load integrator and multimachines to be tested. The overall length of the track is 440yd, and at each end a turn round of 100ft, diameter exists. The entire track is level. An extension of a further 300yd, for carrying out high-speed tests is now being constructed. Among the lanes provided are the following: following:

A dense tar surface pavement possessing a high coefficient of adhesion, both wer and dry, for the evaluation of the reserve tractive ability of wheeled self-propelled plant such as wheeled tractors, loading shovels, motor graders, motor scrapers or similar items. It is 26ft. wide and possesses a subgrade specially prepared to support the heaviest wheel loads without perceptible deformation.

Tracked vehicles are tested on a lane

Tracked vehicles are tested on a lane



Loading shovel on 1:3 gradient

pen recorder, all located on the panel in the instrument cabin.

The drawbar pull integrator consists of a pressure transducer controlling the input voltage to a low inertia motor and counter. Any variation in hydraulic pressure is converted into a proportional variation of electrical energy. By checking the varying counts against dead weight tests over a fixed time it is possible to produce a graph. During a testing programme it is possible to produce the average drawbar pull immediately and without human error. without human error.

A time clock is designed to start work A time clock is designed to start working when the required time has been set on the dial and the main control switch closed, which is not done until the test officer is satisfied that the test train is stable. On completion of the time the clock automatically cuts off the electrical supply to all instruments.

other instruments in the car include:
(a) Engine tachometer, (b) engine revolutions (both equipments under test); (c) true distance counter (every 6in., 12in. or 24in.); (d) track or wheel progression counter (every 6in., 12in. or 24in.); (e) true speed indicator (ft./min.); (f) master clock and check counter; (g) finally, there is a strip chart recorder which enables the performage to be checked at any moment formance to be checked at any moment of a test and which also provides a per-manent record of each test.

The tracked dynamometer car was primarily designed for testing tracked vehicles. In testing modern wheeled tractors its scope is somewhat limited, since it cannot be used at the higher speeds at which these may operate, and a wheeled dynamometer car has now been built to meet this problem.

Test Tracks

Test tracks on the area have been the subject of continued investigation and the present system consists of five lanes, four of which are all-weather surfaces, each designed to enable specific performance data to be evaluated for the various

which enables the tracks to achieve maxiwhich enables the tracks to achieve maximum traction with a minium of track slip. This surface was the result of six years' investigation at M.E.X.E., in which the aim was to provide a surface which would offer constant non-slip properties under varying conditions of temperature, humidity and saturation. With crawler tractors up to 200-h.p., track slip rarely exceeds 3 per cent, and slip seldom exceeds 7½ per cent, with tractors exceeding exceeds 3 per cent, and slip seldom exceeds 7½ per cent. with tractors exceeding 200-h.p. This enables the machine under test to achieve the maximum drawbar pull which its power plant is capable of developing. The tracks penetrate to grouser level on the surface of the test lane during testing but the surface is immediately reinstated by passing a steel

wheeled roller of 6-8 tons weight over it immediately testing is suspended. The composition of this surface is clay, stone, sand, hydrated lime and rubberised bitumen.

For purposes of evaluating beach and shore mobility, one lane of 400yd, is halved, 200yd, being beach sand and the balance composed of 2½in. to 4in. assorted shingle. These lanes are invaluable for assessing the performance of plant likely to be used on beaches and six solid likely to be used on beaches and river sides.

Another lane is representative of the surfaces which constructional engineers generally encounter in actual practice and possesses an adhesion of from 65 to 75 per cent. The surface is invaluable for evaluating tyre sizes, inflations and tread patterns, and is readily reinstated after use by grading, rolling and in some cases adding water. This is not, however, an all-weather track, and during excessive rainy periods testing becomes impracticable as adhesion is considerably reduced. as adhesion is considerably reduced

Boggy Terrain

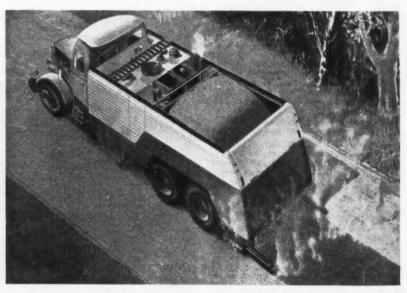
As well as the test tracks, a boggy terrain test course is provided to enable mobility tests to be carried out under measurable conditions. The course con-sists of disturbed road surfaces of boggy sists of disturbed road surfaces of boggy soil (sand, clay and organic material) which rests on a firm but sticky bottom, and peat and other organic types of swamp which rest on a saturated bottom. This track becomes progressively harder to negotiate as vehicles penetrate farther, until aided recovery is necessary. Con-ditions are maintained as nearly constant as possible. as possible.

Among the many other tests which M.E.X.E. can carry out are those for displacement, used for earthmoving plant on a quantity/time basis; noise level of engines and other equipment; engine and fuel efficiency; and ease of maintenance.

The response to the Establishment's civil test programme from manufacturers has been very large, and the services of M.E.X.E. as a testing authority for contractors' plant are engaged for many months ahead.

MANCHESTER INCREASE HOUSING TARGET

Within the next three years Manchester City Council plan to double their rate of housebuilding. According to the chairman of the housing committee, this year's target is 1,480; in 1961-62 it will be 2.850, and in the following year will exceed 3,000.



This new M.E.X.E. development is a military version of a high-speed gritter, designed to lay a surface of tar and grit at convoy speed

BUILDING RESEARCH STATION DIGEST No. 132

Condensation in Dwellings

AT one time the major causes of A dampness in houses were rain penetration and rising ground moisture. Nowadays, condensation has taken their place, and this Digest considers its causes and how it may be prevented.

The main reasons for the increase in the incidence of condensation may be summarised as follows:

Occupants have probably become more sensitive to slight dampness in their houses. Many more people try to maintain a high standard of decoration and any local deterioration is more

obtrusive. There has been a trend to increase the number of rooms without flues. Permanent ventilation of flueless rooms by other means is not commonly

tilation of flueless rooms by other means is not commonly provided.

Some changes in ways of living tend to increase the humidity of the air in the dwellings. In particular, clothes are commonly washed in the kitchen or bathroom, and may be dried indoors as well. Trends in design are largely responsible for this; sculleries and outhouses that would keep the steam away from the rest of the house are no longer provided.

Flueless oil and gas-burning appliances are in more widespread use. The main product of combustion is water vapour, which is emitted into the air within the building.

Solid floors without an insulating floor finish suffer from

sulating floor finish suffer from condensation because they are slow to warm up. "Cold slow to warm up. "Cold bridges," such as dense concrete lintels, are also trouble-

It is more common for dwellings to remain unoccupied during the day, often without background heating, with a sudden rise in temperature and humidity during

How Condensation Arises

Before attempting a solution of the condensation problem, consideration must be given to the way in which it happens. In an occupied building, the humidity is usually rather higher inside than out. People themselves and many of their activities increase the moisture content of the air. Thus, sedentary persons breathe out roughly one pint of water, as vapour, every 10 hours. Moisture vapour is also released by cooking, by drying clothes and by the combustion of oil or gas. For every pint of oil burnt, just over a pint of water is produced.

The temperature within the dwelling is

The temperature within the dwelling is usually higher than outside and in consequence the relative humidity of the air inside may be lower. This tends to give a false impression. What really matters is the actual moisture content of the air, irrespective of temperature and relative irrespective of temperature and relative humidity. It is this moisture content that decides at what temperature the air will become saturated with moisture vapour and will start to release liquid water. It

will be seen from the graph in Fig. 1. that the lower the moisture content, the lower the temperature that can be tolerated before condensation occurs. The graph can be used by marking an appropriate point on the Relative Humidity curves and drawing a horizontal line through this point to the "Air Saturated" curve. The "dewpoint" temperature, at which condensation will start, can then be read from the point of intersection.

If steady temperature conditions can be

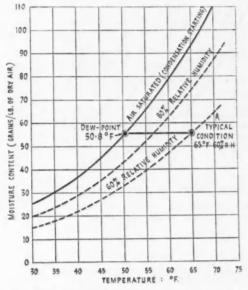


FIG. 1. Relationship of temperature, moisture content of air and incidence of condensation

assumed, it is possible to make an estimate of the liability of wall and ceiling surfaces to suffer condensation. Given a definite internal air temperature and an external air temperature, the temperature of the internal surfaces of walls and roofs finelyding ceiling and roofs and an external surfaces of walls and roofs. (including ceiling) can be calculated from their "U" value. The formula is shown

The graph in Fig. 2 indicates some conditions under which condensation is just about to start on walls and ceilings (W and R respectively) when the outside air

is at freezing point.

If conditions are not steady, as when there is a sudden rise in temperature and humidity, this calculation is invalid. Another factor, the heat capacity, becomes important, as it controls the rate at which important, as it controls the rate at which the surface temperature can rise. For instance, a solid floor with a non-insulating finish would have a surface that is slow to warm; given a rise in temperature and humidity of the air above, it might suffer condensation for several hours. Such a rapid change in air conditions sometimes results from a change in the weather. rapid change in air conditions sometimes results from a change in the weather; there are usually several days a year when a warm, muggy spell succeeds a cold one and causes condensation. The bigger the heat capacity the longer the condensation persists. In dwellings, a rapid rise in temperature and humidity is often caused

artificially, particularly in those buildings that are not occupied during the day.

The condensation does not always occur in the room where the moisture vapour is produced. Much of the moisture vapour in a dwelling is produced in a kitchen; it drifts from there into the colder parts of the building such as the stairwell and bedrooms and causes condensation on the bedrooms and causes condensation on the cold surfaces in those rooms. At times it may cause dampness in the soft furnishings, including the bedding. These materials are slightly hygroscopic and so can pick up moisture from the air even at temperatures not quite low enough to produce condensation in the normal way. Condensation often appears on cold water pipes and it is sometimes assumed that the pipe is leaking. Dampness due to this the pipe is leaking. Dampness due to this cause may appear at one point, e.g., at the bottom of a vertical length.

Design Consideration

Whether condensation is troublesome depends very much on the way in which a house is used. Some people seem to keep a dwelling dry even under adverse conditions, and others seem to promote condensation in spite of having every opportunity to avoid it. Even so, a great deal can be done in the design to reduce the likelihood of condensation. Important factors are discussed below.

All Houses

Background heating. Even a low level of background heating to keep the temperature of the house slightly above that of the outside air, well be sufficient to avoid condensation. Obviously the cost must be taken into account. The solid-fuel boiler often serves for background heating as well as supplying hot water.

Thermal insulation. Insulation is required to obtain the maximum benefit from

Thermal insulation. Insulation is required to obtain the maximum benefit from the background heating. A "U" value not above 0.30 at most is recommended. The insulation also helps to eliminate cold surfaces but care must be taken, in design, to avoid "cold bridges" at lintels, etc.

Ventilating moisture vapour to the open air. As much as possible of the moisture vapour produced in the house should be removed by ways of flues or vents. Of particular importance is the provision of:

Clothes-drying facilities, making sure that the moist air is not fed back into

the dwelling.

A hood over the cooker, vented to

A nood over the cooker, vented to the open air.

A flue or vent pipe to provide per-manent ventilation in main rooms where it is likely that "flueless" combustion appliances will be used for space heating.

An opening top light or ventilator to the kitchen, higher than the top of the

Favourable orientation. Whilst there are many factors that determine the orientation of a kitchen, it is an advantage from the standpoint of minimising condensation to have the kitchen sited towards the north-east corner of the dwelling. In this way the natural ventilation which operates at most times from the west or south-west will not tend to distribute the moist air produced in these rooms to the rest of the house.

Where There is Intermittent Heating

Where there is intermittent heating as in houses and flats that are unoccupied during the day, special precautions are required. The surfaces of floors, walls and ceilings must be such that they can warm up quickly. This can be attained by having the surface layer of material with a good thermal insulation value or by having a lightweight lining of low thermal capacity.

by having a lightweight lining of low thermal capacity.

In this respect the suspended timber floor has an advantage over the solid floor. To avoid temporary condensation on a solid floor it is necessary to have an insulating finish such as timber or cork.

Walls are best given either an insulating plaster finish or a lightweight lining of, for instance, plasterboard. Ceilings of houses with pitched roofs usually have a

Internal surface	Internal air —	Internal surface >	'U' value	/ Internal air -	External air
temperature (°F.)	temperature (°F.)	resistance	structure	temperature (°F.)	temperature (°F.)

(The internal surface resistance can be taken to nave a value of 0.7 for walls and 0.6 for ceilings)

low thermal capacity but those of flat roofs are sometimes merely the underside of a dense concrete slab, requiring a layer of insulating material such as expanded polystyrene.

Cold water pipes. Existing cold water pipes that are troublesome will need to be wrapped and sealed with a vapour barrier. In new buildings siting the cold pipe near a hot pipe will usually be barrier. I sufficient.

Interstitial Condensation

Traditionally built houses have porous walls and roofs, which are able to cope with the higher internal humidity. So long as the interior of the building is slightly warmer than the outside air, moisture tends to distil from the inner surface to the outer surface. surface to the outer surface and to be lost from there by evaporation.

Departures from traditional construction often involve proconstruction often involve provision of an impervious membrane at some point in the structure. For instance, with flat roofs, the covering is not only watertight, it is vapourtight; consequently, in cold weather, the warm moist air permeating from below may deposit moisture on the underside of this covering. Sometimes the water collects in sufficient quantity to drip back into the building.

sufficient quantity to drip back into the building.

There are two ways in which this trouble can be avoided. One is to proved a vapour barrier on the warm side, as on or just behind the ceiling of a flat roof or wall lining. This method is favoured in Canada and the U.S.A. Vapour barriers can be formed with sheet materials

such as bitumen felt, metal foil, polythene and impregnated paper; care must be taken to seal the joints. A barrier can also be formed by building up a paint coating. Here the weakness is the likelihood of splitting of the paint layer where it covers discontinuities such as the joints between ceiling boards or wall/ceiling junctions. Some information on vapour barriers is given in Digest No. 117.

The alternative solution is that favoured in Scandinavia, whereby ventilation is provided within the flat roof just below the waterproof covering. This technique is less liable to breakdown, but requires more detailing in design. The ventilation, which

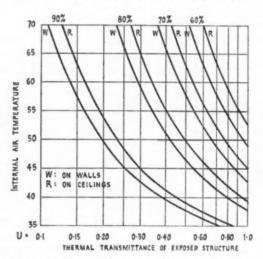


Fig. 2. Steady conditions that will just cause surface condensation when the outside air temperature

must be to the open air and not to the interior of the building, ensures dilution of any moist air that might penetrate from below to the underside of the roof covering. This, in turn, reduces the amount of condensation, except for the special conditions with metal roofs which are described below.

It must be emphasised that intersitial condensation is troublesome mainly where there is an air space within the cold part of the structure. there is an air space within the cold part of the structure. Given a porous material such as lightweight concrete with a tightly bonded waterproof membrane, there is no space in which water can collect. Any accumulation of water near the membrane is dispersed by absorption into the neighbouring material. With this construction condensation troubles can be avoided so long as the build-up in winter is offset by loss of water in summer. It should be noted, however, that the insulation value of a porous material is reduced by the presence of moisture. presence of moisture.

Sheet metal roofs where the insulation is not in direct contact with the metal have a peculiarity that calls for special treatment. On clear nights they lose so much ment. On clear nights they lose so much heat by radiation that the temperature of the metal drops below that of the surrounding air. A difference of as much as 10 degrees F. has been recorded. This cooling by radiation may lead to deposition of moisture (dew) on both sides of the metal sheets, and that on the underside may drip back and cause dampness in the building. Ventilation of the roof space cannot prevent condensation on the underside of the roof sheeting when the roof is radiating heat to a cold night sky, but it is useful in getting rid of water by but it is useful in getting rid of water by evaporation during the day. Treatment of the underside of the metal with an anti-condensation paint is required in addi-tion to a vapour barrier or ventilation needed to prevent interstitial condensation.

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FIVE-STOREY LUXURY FLATS IN THE CITY

A FIVE-STOREY block of luxury flats, A designed specifically to provide businessmen with apartments convenient to the business side of the City, is now under construction close to St. Paul's Cathedral.

The block, which will be known as Amen House, will contain 12 flats and a penthouse, with a communal roof garden. Most of the flats will have two bedrooms, living room, kitchen and bathroom, and each will have the following amenities:

From the main en-From the main entrance hall, which will be finished in high-quality marble, terrazzo, hardwood and joinery, an electric passenger lift and a staircase will desert the staircase will be stairca and a staircase will serve all floors. There will also be an additional service lift and staircase. Each bedroom will be fitted with a Vanitory plastic unit, and will have thermo-plastic tiles for either close fitted carpet or leaving as a floor finish. Standard equipment in the fully fitted kitchens will include "Wastemasters" and alternative gas and electric will also be an additive gas and electric

cooker points, the flooring being either of lino or p.v.c. tiles. There will be a ducted refuse disposal system, and all bathrooms will have luxury coloured suites, tiled walls and fitted towel rails, and mirrors.

Other amenities will include telephone points in all rooms, wiring and portering system to the entrance of each flat, clock



An artist's impression of Amen House

points, shaving sockets, cabinet type convection heating from a central heating system and double glazed windows to ensure good insulation.

sure good insulation.

The promoters for the project are Bernard Sunley Investment Trust, and the architects are E. Norman Bailey and Partners, 25 Catherine Place, London, S.W.I. Bylander, Waddell and Partners, 26 Old Burlington Street, London, W.I. are the consulting engineers, and Banks, Wood and Partners, 5 Cromer Street, London, W.C.I, are the quantity surveyors. The main contractors are Bernard Sunley and Sons, 25 Berkeley Square, London, W.I. and the cost is estimated at £200,000.

OPEN DAYS AT NATIONAL ENGINEERING LABORATORY

The National Engineering Laboratory is to hold Open Days on Wednesday and Thursday, June 15 and 16, 1960, when the laboratory will be open for inspection. Special displays have been arranged including many items developed since the last Open Days in 1958.

Facilities for sponsored investigations for industry will be on show, as well as results of work carried out as part of NEL's general programme of basic and applied research. These include the automatic measurement of errors in machine tools, the development of hydrostatic transmisters. sions, research on the cold extrusion of steel, studies of the performance of high-speed bearings, investigations of the growth of fatigue cracks, and the preparation of new international steam tables.

Representatives of any organisation with engineering interests will be welcome. Applications for invitations, stating which day is preferred, should be sent to: The Director, National Engineering Laboratory, East Kilbride, Glasgow.

TERRACED HOUSE ON THREE FLOORS Part of Garden Development at Upper Norwood

THE first of a new type of terraced house, providing 1,015 sq. ft. of accommodation on three floors, has been built on a site at Auckland Ridge, Upper Norwood, where on a wooded hillside 89 dwellings are to be built as part of a private landscaped garden scheme.
The house has been designed by K. W.
Bland, A.R.I.B.A., and the development
is being undertaken by Wates Built Homes,

Ltd.
Main entrance to the house, with a glazed

Main entrance to the house, with a giazed door and screen, is on a lower ground floor. The entrance hall is finished with thermoplastic tiles and contains a built-in cupboard. An internal door leads of the hall to a fuel store and garage, 17ft. 6in. by 9ft. and fitted with metal "up and wars" doors.

over" doors.

The lounge and dining rooms are located The lounge and dining rooms are located on the ground floor and are divided by Marley Regal folding doors. The floors in both rooms are finished in African hardwood strip boarding. The lounge, 16ft. 9in. by 15ft. 6in., has large picture frame windows spanning the width of the house and incorporates an open fire-place. The dining room, 8ft. 6in. square, gives access to the rear terrace and garden and opens out into the kitchen.

The kitchen incorporates a number of

The kitchen incorporates a number of cupboards, a stainless steel sink and drainer and plastic topped work surfaces. A Prestcold "Packaway" refrigerator is built in at eye-level. The floors are finished

in Marley tiles and the walls are half-tiled

in white glazed ceramics.

A glass-panelled staircase runs from the lounge to the first floor, which has two double bedrooms each with built-in ward-robes. The rear bedroom also has a large airing cupboard containing a cork insulated hot water cylinder with thermostatically controlled immersion heater. A third bed-room, a guest room, includes a mirrored corner vanity unit.

corner vanity unit.

The bathroom contains a vitreous china pedestal basin and low-flush w.c. suite. Heating in this room is provided by a high-level "Radisil" infra-red heater.

Automatic space heating is provided by F45 Halcyon 17,000 B.Th.U. gas-fired space heater with electric fans and outlet grilles in the lounge, dining room and two principal bedrooms. This unit, which is fully selective is controlled by a thermofully selective, is controlled by a thermo-stat and time clock in addition to hand

Externally the house has brick eleva-tions with a mixture of weatherboarding and multi-coloured panels beneath the picture frame windows. The roof is of Welsh slate.

The house is available with three or two bedrooms. In the two-bedroom house the principal bedroom incorporates the guest room giving overall dimensions of 15ft. 6in. by 12ft. 6in. The properties are for freehold sale, at £4,500 for centre and £4,750 for end houses.



General view of the houses at Auckland Ridge

CONTINENTAL EXPERTS INSPECT THE M.1

ROAD experts from three Continental countries last week inspected the M.1 and highway construction in Birmingham when they were the guests with members of the All-Party Roads Study Group of the

From the Continent came M. Edmond Goelen, senior member of the Belgian Ministry of Transport, who was especially concerned with the construction between 1956 and 1958 of Brussels' new highway system which includes urban motorways. He was accompanied by M. Paul Lefevre, the roads and bridges engineer.

Holland was represented by Mr. A. J. Nap, head of the Dutch Roads Department, who was accompanied by Mr. Cosquino De Bussy, his predecessor. Both have been concerned with construction of motorways between Amsterdam, Utrecht and The Hague and urban roads in Rotterdam. West Berlin was represented by Herr Werner Leipold, a member of the Berlin Roads Department, who has been concerned with the development of urban motorways in the former German capital. Herr Funcke, a senior representative of the North Rhine Westphalia roads Ministry, was also a member of the party.

FIRST EFFLUENT AND WATER TREATMENT EXHIBITION

THE first Effluent and Water Treatment Exhibition is to be held at the Seymour Hall, London, W.1, on October 18/21 this year. It is expected that a wide range of equipment, plant, and techniques will be exhibited and illustrated covering this field. Simultaneously, a convention will be held with the co-operation of a number of societies and institutions specialising of societies and institutions specialising in effluent and water treatment problems, at which Papers will be given by leading experts. There will be opportunities for full discussion, and it is expected that the technology of water and trade waste treatment will be advanced as a result of the increased public and industrial attention which will result.

The Convention subjects will include:

tion which will result.

The Convention subjects will include: analysis techniques; biological effluent treatment; boiler feed waters; composting treatment; development of filtration and water treatment plant; discussion of Armour Committee Report; electroprecipitation of industrial mists and dusts; fluoridation; manufacturers' problems in disposing of effluents and trade wastes; problems of design in effluent system plant; pumping; river pollution; sewage disposal without main drainage; treatment of radio-active waste materials:

sewage disposal without main drainage; treatment of radio-active waste materials: waste water recovery; water softening. Full details of both Exhibition and Convention can be obtained from the organisers, Thunderbird Enterprises, Ltd., 140 Cromwell Road, London, S.W.7.

NEW SALARY SCALE FOR L.C.C. ENGINEERS

In reply to a question at the recent meeting of the L.C.C., the chairman of the establishment committee, Mr. R. E. Goodwin, said that the committee was drawing up a new salary scale for the council's technical staff. These scales, if approved, should operate as from April 1,

The chairman stated that in framing these revised scales the objective had been to adopt levels which were sufficient to be reasonably competitive, and not only to produce a tidier structure but to eliminate the overlapping scales which were introduced when improvements were granted at the maximum of certain grades in 1955

in 1955.

The scales proposed are: Assistant Senior Engineer, etc., £1,900 x £75—£2,050; P.A. Prof., £1,700 x £50—£1,700 x £75—£1,700; Grade II, £1,500 x £50—£1,700; Grade II £1,250 x £50—£1,500; Grade III, £750 x £40—£1,150, thence, subject to a certificate by the head of the department that the ability of the officer and the work assigned to him justify this course, x £50—£1,250.

It is also proposed by a modification of the present procedure on promotion that any officer who has reached the maximum of one grade shall enter the next grade above at one increment up the scale, with appropriate adjustments where necessary of the incremental date. in 1955. The

the incremental date.

CHARTERED SURVEYORS' ANNUAL CONFERENCE

ANNUAL CONFERENCE

This year the annual conference of the Royal Institution of Chartered Surveyors will be held at the University College of North Wales, Bangor, from Tuesday, August 30, to Saturday, September 3.

The theme of the conference is "Education for the Surveyor's Profession" and the opening address will be made by Sir John Wolfenden, C.B.E., vice-chancellor of the University of Reading, who will speak on "Educating the Future Citizen."

The other principal speaker will be Mr. A. A. Part, C.B., M.B.E., undersecretary at the Ministry of Education, who will give an address on "Education for the Professions."

NEW LABORATORIES CENTRALISE COIL SPRING RESEARCH

VITAL component of almost all A machinery, yet one about which comparatively little is written or spoken, is the coil spring. In order to ensure that this unit, whether of the traditional carbon steel or of the alloy materials now being tried, is able to stand up to the stresses and strains of modern developments in plant, much research and testing is called for.

The Coil Spring Federation Research Organisation has now been able to centralise this research in a new laborathis research in a new laboratory building built at Doncaster Street, Sheffield. Opened on March 24, by Sir Harry Melville, K.C.B., F.R.S., secretary of D.S.I.R., these laboratories will enable research to be carried out on springs made from the finest wires to bars of up to 2in, in diameter. In addition tests will be made on materials in wire and strip form, and strip form, and metallurgical inform, and metallurgical investigations will be under-taken on a very wide range of ferrous and non-ferrous of fe

The ground floor of the two-The ground floor of the twostorey building c on tain a
laboratories for heavy-fatigue
testing, general mechanical
testing, experimental heat
treatment and electro-plating.
In the fatigue testing laboratory are housed 12½-h.p.
machines capable of applying
a dynamic load of 9 tons,
which are used for fatigue
testing heavy coil springs. Up
to 18 springs may be tested testing heavy coil springs. Up to 18 springs may be tested at one time. Other machines used for fatigue testing springs of the internal combustion engine type are capable of infinitely variable speeds of compression of up to 4,000 per min. A special feature of this laboratory is the sound-proofing and anti-vibration features incorporated in both the suspended ceiling and the floor.

The mechanical testing laboratory

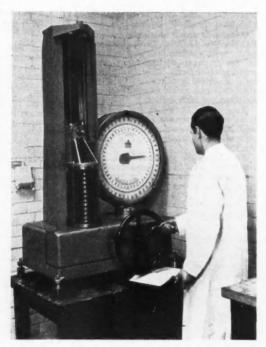
the floor. testing The houses a variety of conventional machines houses a variety of conventional machines used for determining the properties of both specimens and springs, covering the range of material diameters .004-2in. One machine, for example, is capable of developing a maximum torque of 120,000lb. in. and is used to investigate the effects of hardenability on the static torsional properties of large-diameter spring steel bars.

There is a comprehensive range of

There is a comprehensive range of machines, capable of applying static loads

from a few ounces up to 30 tons. trom a new ounces up to 30 tons. The determination of fatigue characteristics of drawn wires of diameters .01-.25in, is provided for by high-speed rotating-beam fatigue machines, which can complete up to 100,000,000 cycles in as little time as one week.

The study of corrosion and protection of spring materials and the effects of hydrogen embrittlement due to electroplating is being continued in a new laboratory



Loads of up to one ton are applied by this machine in order to study the load/deflection characteristics of heavy springs

specially fitted out for this purpose. Facilities are available for electroplating copper, zinc, tin, cadmium and nickel, and the experimental heat-treatment laboratory s equipped with fully instrumented electric

The laboratories contain a number of machine tools and a shot-peening unit which automatically rotates the object under treatment while at the same time traversing it with the shot stream.

The first floor is devoted to light laboratories, containing small static testing machines, general scientific instruments and equipment; administrative offices, and

a conference room. The materials testing a conference room. The materials testing laboratory contains machines for determining macro-hardness, tensile and torsional properties of wires and load-deflection characteristics of small springs. Metallographic facilities are provided in specially fitted rooms for rough sample preparation, fine polishing and etching, microscopical examination and photography.

The laboratories were built at a cost of £22,000 and new equipment totalled another £25,000. The Director of the Coil Spring Federation Research Organisation is Mr. R. Haynes, B.Sc, A.Inst.P., A.I.M.

BUILDING SURVEYORS' MOCK ARBITRATION

The London and Home Counties Area of the Building Surveyors Institute recently held their first Mock Arbitration before a large audience. The arbitrator, John L. Curtis, F.R.I.B.A., F.R.I.C.S., F.I.Arb., heard the case of Messrs, F. G. Builder v.

heard the case of Messrs, F. G. Builder v. Mr. S. Employers.
The case arose through the architects refusing to certify practical completion of the rebuilding work, the subject of the case, because he was not satisfied that the roof had been constructed in accordance with the terms of the contract. This view was shared by the structural engineer, called in by the architect, who gave evidence that the concrete was of a poor mix and the reinforcement when examined was not in its right place.

The advocate for the employer said in

The advocate for the employer said in his closing speech that the architect rightly refused to certify that practical completion had taken place, and that had he done so he would have been liable to his client for

In making his award, the arbitrator up-In making his award, the arbitrator upheld the architect's decision and granted the employer damages of £700 for the cost of renewing the roof plus damages for nine weeks at £100 per week for the delay in completion, which period extended from the time the builder ceased work upon the site until the estimated time for the completion of the renewal of the roof.

This is an important discussion which is founded on fact and might well have serious consequences on building in the future. As the Claimants' Advocate said in his closing speech, Contractors may well find themselves in the extremely precarious position of not only having their payments

position of not only having their payments withheld indefinitely, but also liable to a large and perhaps crippling deduction by way of liquidated damages.

At the close of the hearing the chairman

Mr. G. T. Chequers, proposed a vote of thanks to all who had participated, and had a special word of thanks to Mr. Curtis who not only acted as arbitrator but also wrote the script.

Kilmarnock B.C. is building, by direct labour, 16 detached bungalows for sale as an experiment,

WORK OF ENGINEERING CONSTRUCTION

Definition Widened

REGULATIONS extending the definition of the expression "work of engineering construction" in section 152 of the ing construction" in Section 152 of the Factories Act, 1937, have been laid before Parliament by Mr. Edward Heath, Minister of Labour, and will come into operation on May 15, 1960.

Under these regulations works which will Under these regulations works which will now also be included within the definition are the construction, structural alteration or repair (including repointing or repaint-ing), or the demolition of any steel or rein-forced concrete structure other than a building, any road, airfield, sea defence works or river works, and any other civil or constructional engineering works of a similar nature to any of these works.

The definition will not, however, apply

The definition will not, however, apply to these works if they are carried on in a factory as defined in the 1937 Act, or on premises to which that Act applies, or on a railway or tramway.

The effect of the regulations is that from May 15, next the requirements of the Factories Acts about sanitary conveniences, and notifying site of operations accidents.

and notifying sites of operations, accidents and industrial diseases among others will apply to these classes of work. The new safety regulations for construction work, which the Minister proposes to make also apply to them.

EXPERIMENTAL 40 M.P.H. SPEED LIMIT

The Minister of Transport, Mr. Ernest Marples, last week laid before Parliament the report of the Departmental Road Safety Committee on the results of the 40 m.p.h. speed limit experiment in the London Traffic Area.

London Traffic Area.

The main facts which emerge from the report are that on roads which previously had no speed limit, the 40 m.p.h. restriction caused a reduction in speeds and there was a fall in accident rates; while on roads previously subject to the 30 m.p.h. limit, the raising of the limit to 40 m.p.h. caused no appreciable change in speeds or accident rates. In the latter case, the higher limit was more realistic and consequently encouraged a better standard of enforcement.

"THE PIPER" LICENSED PREMISES. HOOLE

ONE of the latest public houses to be built in the north-west area is "The Piper" which was opened recently at Hoole, Chester, by The Chester Northgate Brewery Co., Ltd., of the Greenhall, Whitley Group. The photographs show (top right) a general view of the house from the Chester By-pass road and interior views of the



public bar (left) and lounge bar (right).

Erected at a cost of £25,668 the building was designed by the company's architect, Mr. Gilbert H. Parry, A.R.I.B.A.,

M.Inst.R.A., and Saxon, Smith and Partners, F./F.R.I.B.A. The general contractors were John Hughes (Contractors), Ltd., Holt Street, Wrexham.





NEW RAILWAY LINE TO SERVE NOTTINGHAMSHIRE COLLIERY

FOR the second time in a month, the Eastern Region of British Railways have given details of a new branch line being built to serve a new colliery in the Nottinghamshire area. Bever-cotes, near Retford, was the first; now comes the announcement that a rail connection is under construction to link the new coal mine being sunk at Cotgrave with the Nottingham-Grantham line at a point near Radcliffeon-Trent.

The new railway is almost two miles long, more than three-quarters of it in single line. From the colliery end, the railway runs a mile to a junction where it branches out into two single line curves, each approximately 4-mile long. These form an eastern and a western link with

form an eastern and a western link with the main line.

The eastern curve is carried over low-lying ground, forming the west bank of the River Trent, on a 30ft.-high viaduct which abuts onto the one carrying the Nottingham-Grantham line. The track for the western curve will be laid on an embankment bankment.

Four road crossings at fairly regular intervals along the line have caused the level of the railway to be kept about 21ft. above that of the surrounding area—except at the colliery end, where the natural slope of the ground and the absence of a road permit a return to ground level.

The ruling gradient is 1 in 392, with a maximum over 1,030yd. of 1 in 199. Material for the embankments—about 300,000 cu. yd. of it—has been obtained from a borrow pit alongside the A.52 road.

Big Viaduct

The most spectacular feature of the civil engineering work is, of course, the viaduct carrying the eastern curve of the new line. More than 1,000ft, long it has 37 spans—each of which is about 30ft.

37 spans—each of which is about 30ft. Pile have been driven will into the gravel beds underlying the site to protect the foundations against scouring from flood waters in the event of the ground being worked in the future. From the pile caps, trestles—comprising two circular concrete columns 2ft. 7in. in diameter—carry longitudinal concrete girders, cast in situ and L-shaped in cross section. The

columns are formed by placing reinforced concrete within precast reinforced concrete pipes.

Between the main girders, a transverse deck of composite prestressed and in-situ concrete construction will carry the ballasted permanent way. Walk-ways will be provided along the tops of the main girders.

Bridges

Four bridges have had to be constructed in connection with the new branch railway. The biggest is over the Nottingham to Grantham (A.52) road. This is a steel structure, with a double span of 50ft. and 48ft. 6in. The main girders are of built-up, welded sections and the deck consists of transverse girders encased in concrete. The parapets are of steel mesh panels. The centre support is a welded steel portal and the bearings are of rubber to allow for expansion. for expansion.

Two small bridges—one at Viaduct Lane (14ft, 6in, span), the other at Holme Lane (25ft, span)—are of composite prestressed and in-situ concrete construction.

The whole of the work has been carried out under the direction of Mr. A. K. Terris, B.Sc., M.I.C.E., chief civil engineer, Eastern Region, British Railways. The main contractors for the work were the Cementation Co., Ltd.

Men and Movements

NEW appointments have been announced by Richard Costain, Ltd., from among their existing executive staff: Mr. B. K. Clancy becomes managing director, Richard Clancy becomes managing director, Richard Costain (Civil Engineering), Ltd., and Mr. P. Lederer, managing director to Richard Costain (Construction), Ltd. Mr. J. B. Parrett becomes chairman of Westminster Plant Co., Ltd., and Mr. C. Hammersley, managing director of the firm. The new joint managing directors of Richard Costain (Associates), Ltd. are Mr. J. F. Robinson and Mr. J. P. Sowden, and the managing director of Richard Costain (Projects), Ltd. is Mr. P. Loveday. Mr. E. G. Lewis becomes managing director Mr. E. G. Lewis becomes managing director of Costain Property Investments, Ltd.

The Council of Scientific and Industrial The Council of Scientific and Industrial Research has approved the appointment of Mr. R. M. Wynne-Edwards, D.S.O., O.B.E., M.C., M.A., M.I.C.E., to be chairman of the Building Research and Road Research Boards from 1960 to 1965. He succeeds Sir Herbert Manzoni, chairman, Building Research Board and Mr. E. John Powell, chairman, Road Research Board.

Mr. E. N. Griffith, C.I.B.A.E., has been elected vice-president of the British Engineers' Association after having served on the Governing Council of the B.E.A. for the past ten years as the representative of the Agricultural Engineers Association, the which Association he was president from of which Association he was president from 1948 to 1954. Mr. Griffith is the chairman and joint managing director of Rotary Hoes, Ltd.

Mr. J. Wootton has joined Inspection Services, Ltd., as a senior welding inspector X-radiographer. A Lloyd's approved in-spector, he is an authority on the radio-graphy of concrete, recently having carried out this type of inspection on the new Dungeness lighthouse. He will head a department dealing with the inspection of concrete, along with X-ray services, in a new test house, shortly to be opened by the company.

Dowty Rotol, Ltd., have announced that the re-organisation of their engineering department has now been completed.

Mr. L. G. Fairhurst will be the technical director for the company. Under him there will be the Arle Court design department headed by Mr. A. A. J. Willitt as chief engineer, and the Staverton design department under Mr. E. Danvers as chief engineer. Mr. Fairhurst was previously technical. ment under Mr. E. Danvers as chief engineer. Mr. Fairhurst was previously technical director and chief engineer, Rotol, Ltd.; Mr. Willitt, chief designer, Dowty Equipment, Ltd.; and Mr. Danvers, deputy chief engineer, Rotol. Ltd. Mr. W. J. Odell, who resigned from his position with Witlor, Ltd., last month has now taken up an appointment as joint managing director of Allplant, Ltd.

The Eastern Region of British Railways have announced the appointment of Mr. H. R. Gomersall, formerly planning officer (reconstruction), general manager's office, Liverpool Street, as regional planning officer in the same office.

Mr. Roy Walker has joined Kelvin and Hughes (Industrial), Ltd., as a specialist representative for North Wales, Yorkshire and the northern parts of Lincolnshire and Derbyshire. Previous to joining Kelvin Hughes, Mr. Walker was a metallurgist with the U.K.A.E.A. at Windscale.

The Urastone Co., Ltd., one of the British Uralite group of companies, have announced the appointment of a new regional manager for the Northern region. He is Mr. J. York, whose area includes Cumberland, Westmorland, Northumber-land, Durham and Yorkshire.

Mr. S. S. Scott, O.B.E., M.A.(Oxon), who was appointed chief personnel officer of the Central Electricity Generating Board on its formation, has retired.

Imperial Chemical Industries, Ltd., have announced that Mr. D. R. Mackay has been appointed regional manager of I.C.I. Midland sales region, in succession to Mr. T. H. Minton, who has retired after 38 years' service with I.C.I. and its predecessors. Mr. Mackay has been regional manager of the company's Scotland and Northern Ireland sales region since 1957. He is succeeded by Dr. J. P. Dickson, who has been assistant I.C.I. sales controller in London since 1958.

The recently appointed managing direc-The recently appointed managing director of the engineering group of the General Electric Co., Ltd., Mr. R. N. Millar, has been visiting India to investigate the prospects for British nuclear power plant exports. During his three-day stay, he had informal discussions with Dr. Homi Bhabha, chairman of the Indian Atomic Energy Commission. Mr. Millar was accompanied by mission. Mr. Millar was accompanied by Mr. P. A. Lindley, chief engineer of the G.E.C. atomic energy division.

Among passengers arriving at Southampton on the "Queen Elizabeth" last week was Mr. Charles S. French, chairman and managing director of W. and C. French, Ltd.

Mr. C. D. Quinn, chief architect to Ribble Motor Services, Ltd., Preston, has retired after 33 years' service with the company. He is succeeded by Mr. A. B. Dodd, who joined the architects' department of the company in 1957.

Mr. Anthony E. Hepper has been appointed a director of Alexandra Building Services, Ltd.

The overseas manager of NCK-Rapier, Ltd., Mr. David A. Cassels, is making a round-the-world tour, which will bring him back to this country about the end of May. His itinerary includes visits to Italy, Greece, Iran, Pakistan, India, Malaya, North Borneo, Australia and New Zealand. He will end his tour in the United States, where he will spend a week with the company's excavator division associates, the Koehring Company, at Milwaukee.

MUNICIPAL

Mr. E. S. Gilbert, surveyor and water engineer to Orell (Lancs.) U.D.C. for the last ten years, has been appointed surveyor to Haverhill (Suffolk) U.D.C.

The new deputy engineer/manager of the North East Warwickshire Water Board is Mr. G. W. Marlow, previously assistant borough surveyor at Nuneaton.

Mr. John W. Sweet, who has been an engineer with Ipswich B.C. since 1956, has been appointed a road engineer in the Public Works Department of the Government of Sarawak.

After 32 years' service with North Riding C.C., Mr. Alan Watson, surveyor to Area 3, will retire. His successor will be Mr. P. B. Furness, the resident engineer to the £1m. Catterick by-pass scheme.

Mr. A. M. L. Dawe, deputy engineer to Border (Cumberland) R.D.C., has been appointed engineer and surveyor to Prescot (Lancs.) U.D.C.

Mr. F. W. Singleton, a member of the staff of Leicester borough engineer's department, has been appointed deputy borough engineer at Gateshead.

The new borough surveyor at Nuneaton, succeeding Mr. George Ashton, will be Mr. Samuel Thomas Jones, at present deputy borough engineer at West Brom-

Mr. E. Gwynedd Williams, surveyor and ablic health inspector to Portmadoc public health inspector to Portmadoc U.D.C. for the last three years, has resigned.

The chief engineer of the Don Valley Water Board, Mr. Paul Hempel, will retire at the end of March after 34 years' service.

Mr. W. M. Ward is the new deputy engineer and surveyor to Ennerdale (Cum-berland) R.D.C.

YORKSHIRE AIR TAXI

An air taxi service using three- and fourseater aircraft is now being operated by a new company, Yorkshire Air Taxi, Lumbrook Mills, Northowram, Halifax, which has been formed by Wescol Con-struction Co., Ltd.

struction Co., Ltd.

Examples of the air taxi service, which use aircraft fully instrumentated to air line standards and flown by experienced pilots, include flights between Leeds and London in 65 minutes at a cost of £7 return, and between Leeds and Glasgow in 120 minutes at £14 return. Special terms can be arranged for regular trips, and small amounts of freight may also be carried. carried.

FOR THE DIARY

April 5.

General meeting of the Institution of Plant Engineers, Royal Society of Arts, John Adam Street, London, W.C.2, 7 p.m. Paper, "Large Span Bridges, with Special Relation to the Runcorn-Widnes Project." by Mr. J. Kenneth Anderson, M.A., M.I.C.E., partner, Mott, Hay and Anderson.

Electrical Engineers Exhibition, Earls Court. London. April 5-9.

Annual luncheon of the British Association of Field and Sports Contractors, Dorchester Hotel, London. 1.30 p.m.

April 9.

First annual dinner and dance of the North West Branch of Contractors Mechanical Plant Engineers, Kirkby Executive Club, Kirkby Trading Estate, near Liverpool. 6.30 p.m.

April 21.

Annual dinner of the Institution of Civil Engineers, Dorchester Hotel, London.

April 22.

L.M.B.A. lunch to Lord Mayor of London at Savoy Hotel, London.

April 25.

First International Compressed Air and Hydraulics Exhibition, Empire Hall Olympia, London. April 25-29.

April 27.

Annual luncheon of the Federation of Construction Machinery Importers, Dorchester Hotel, London. 1 p.m.

May 3-13.

Mechanical Ha Handling Exhibition. Earls

May 4.

Annual general meeting of the North West
Branch of Contractors Mechanical Plant
Engineers, Kirkby Executive Club, Kirkby
Trading Estate, near Liverpool.

May 4.

Annual conference of the Institution of Plant Engineers, Scarborough, May 4-6.

June 21
Annual conference of the Institute of Purification, Scarborough, June 21-24.

M.1 SHOULDERS "NOT WIDE **ENOUGH"**

Speaking in Birmingham last week, Mr. W. K. Laing, chairman of John Laing and Son, Ltd., said that the hard shoulders of the M.1 Motorway were not wide enough. They were "a calculated risk which did not come off."

It was hoped that by covering them with a consolidated

gravel they would in time be consolidated and able to support traffic. "We would have liked to limit the number of vehicles using them in the first year," he stated. "They have been used too much too quickly."

CAMBRIDGE BRIDGE RECONSTRUCTION

Night Operations Solve Traffic Problem

THE engineering problems attached to British Railways' modernisation scheme are not by any means eased by the necessity of avoiding dislocation of passenger and freight services.

When the work entails rebuilding and widening a road-over-rail bridge, then the difficulties are further aggravated by the need to keep the road open—or, at least,

closed for as little time as possible.

One of the solutions is to do major work in the small hours of the morning and this method was adopted when the first phase of the reconstruction of the bridge carrying Hills Road, Cambridge, was carried out recently.

The job of positioning on the abutments twelve prestressed concrete beams, weighing from 24 to 13 tons and varying in length from 77ft, to 71ft., and a steel-structure footbridge 96ft. long, was done by two 25-ton lorry-mounted Coles cranes. These were positioned on the abutments on either side of the bridge and, synchronised by loud hailer, lifted the beams straight from road vehicles on the bridge into position parallel with the road.

The beams were brought by vehicle and bogie trailer from the manufacturer in Huntingdonshire the day before, and were parked in a nearby market until they were required.

required.

The road over the bridge is the main route to Colchester and despite the size of the beams and the extent of the cranes' operations, traffic was kept flowing throughout the night by closing only one lane of the bridge and having the single-lane traffic controlled at either approach by the police.

Although the side of the side of

Although each lift had to be made be-tween the passage of trains on the line below, the operation was completed by the

The work on the Hills Road bridge is a British Railways contract awarded to A. Monk and Co., Ltd., who sub-contracted the lifting operation to Pickfords Heavy Haulage Service.



One of the prestressed beams is positioned by the two cranes

INSTITUTION OF HIGHWAY ENGINEERS

THE following elections took place at the Institution of Highway Engineers on March 4, 1960:

on March 4, 1960;

Members
J. A. Boucher (chief assistant engineer.
Kampala); R. E. C. Dorling (county surveyor.
Huntingdonshire C.C.); J. W. Downer (divisional surveyor, Bedfordshire C.C.); T. Gray
(assistant engineer, Buckinghamshire C.C.);
J. S. McNeil (deputy chief engineer, M.O.T.);
C. Needham (borough engineer and surveyor,
Sutton and Cheam B.C.); G. J. Phillips (chief
engineering assistant, Buckinghamshire C.C.);
K. Severn (partner, Leslie Turner and Partners).

Associate Members Associate Members

Associate Members
D.C. Armes (engineering assistant, Hertfordshire C.C.); A. B. Baker (experimental officer, Road Research Laboratory); R. M. Baynes (engineering assistant, Buckinghamshire C.C.); C. E. Belizaire (director of public works, Grenada); T. G. Benton (district engineer, Government of British Guiana); A. Broad (assistant engineer, St. Albans R.D.C.); G. Cramp (assistant engineer, Buckinghamshire C.C.); D.A. Davis (senior assistant engineer, Abingdon B.C.); B. Davison (senior assistant engineer, King's Lynn Cor-

poration); E. Girling (chief engineering assistant, Billingham U.D.C.); B. C. Gooderick (senior assistant engineer, Middlesbrough B.C.); G. W. Gregory (senior assistant engineer, Lancashire C.C.); M. D. C. Gunatilake (assistant engineer, P.W.D. Ceylon); K. D. Heeps (senior assistant engineer, Leicester B.C.); P. W. Heptinstall (senior engineer, Devon C.C.); W. P. Lindsay (assistant civil engineer, Cumberland Dev. Corporation); F. A. Limpscombe (district surveyor, Buckinghamshire C.C.); A. F. Luba (engineering assistant, Edinburgh Corporation); J. S. McGookin (senior engineering assistant, Dudley B.C.); H. E. Mansley (engineering assistant, Cheshire C.C.); R. H. Morriss (resident engineer, Worcestershire C.C.); R. H. J. W. Morton (deputy chief civil engineer, I.C.I., Ltd.); M. P. O'Reilly (scientific officer, Road Research Laboratory); J. Priestley (senior assistant engineer, Lancashire C.C.); J. M. Reid (senior engineering assistant, Ayr C.C.); M. A. Riddelsdell (assistant engineer, Norwich City); D. E. Sargent (assistant engineer, Buckinghamshire C.C.); G. A. P. Shapley (engineering assistant, Devon C.C.); D. W. Smith (partner, Gilbert Thomson and Son); P. W. Wordsworth (assistant engineer, Kent C.C.)

Obituary

It is with regret that The Contract Journal records the death of the following:

Journal records the death of the following:

Mr. George Wood, C.B.E., vice-president of Thos. W. Ward, Ltd. He joined the company as a boy in 1897 when the offices were in Fitzalan Chambers, and was appointed local director in 1919. In the succeeding years he played a considerable part in building up the company and its subsidiaries to its present size. He was made a director in 1923 and assistant managing director in 1928. In 1941 he became joint managing director and deputy chairman and in 1950 was appointed chairman. An acknowledged expert on iron and steel scrap and shipbreaking, Mr. Wood was director of scrap iron and steel supplies to the Iron and Steel Control in the early years of World War II and also of British Iron and Steel Corporation (Salvage), Ltd., which was responsible for salvaging of marine scrap during the war.

Mr. Edmund Howard, senior partner of

salvaging of marine scrap during the war.

Mr. Edmund Howard, senior partner of
Howard Fairbairn and Partners, architects
and surveyors, London. He was 78. Mr.
Howard was chairman of the City of
London Real Property Company, a director
of the London County Freehold and Leasehold Properties, and president of the
Associated Owners of City Properties.

Dr. William A. Singletan PRARA

Associated Owners of City Properties.

Dr. William A. Singleton, P.R.I.B.A., Director of the Institute of Advanced Architectural Study in York. Aged 44, he had organised the city's architectural activities since 1951. He was Hoffman Wood Professor of Architecture, for the 1959-60 session, in the University of Leeds.

Mr. John Holliday Haughan, aged 64, county architect of Cumberland since 1937.

Mr. Harold Gilbert Ramsell, aged 61, general manager of The Yale and Towne Manufacturing Co., Ltd.

Mr. Ambrose Baldwin, a director and founder of Andrews, Baldwin and Co.,

founder of Andrews, Baldwin and Co., Ltd., builders, Rotherham.

Mr. John Harley Dalton, A.R.I.B.A., aged 50, of Barnsley, Yorks. During his career he held appointments with the Air Ministry, Singapore, Anglo-Iranian Oil Co.. Abadan, and John Barker and Co., Ltd., Saudi Arabia.

ROAD IMPROVEMENT IN ROSS AND CROMARTY

A scheme, estimated to cost about £140,000, for reconstructing almost four miles of the Ullapool-Ledmore road (A.835) between Moss Bridge, Ullapool, and Glutton has been approved by the Secretary of State for Scotland. The scheme forms part of the Crofter Counties Programme and its full cost will be borne by the Government.

The length of road to be reconstructed

by the Government.

The length of road to be reconstructed is narrow, with sharp bends and few passing places. Under the scheme now approved it will be provided with a two-lane carriageway (18ft. wide), the bends will be eased and a few small diversions will be built, particularly north of Strathan Bridge.

The work will be carried out by Crowley Russell and Co., Ltd., Glasgow, as contractors to the Ross and Cromarty County Council, who have prepared the scheme.

SOMERSET COUNTY OFFICES DESIGN AWARD

Mr. Leonard Tatum, of Goodwin and Tatum, London, has been awarded the first prize of £1,500 in the architectural nrst prize of £1,500 in the architectural competition for new county council offices at Taunton, Somerset. The winners of the £1,000 second prize were Sir John Burnet, Tait and Partners, London, and the winner of the £500 third prize was Mr. M. Handley, of Wallington, Surrey.

The new building, which will serve as an extension of the existing offices, is estimated to cost £400,000.

Talking of Safety "DRAGEE"

HAVING succeeded in tearing our-A selves away from our handsome new mobile crane, Bill Manning and I went back to his office where we had two mugs of strong tea apiece, and then lit our pipes and got back to business.

"When is that crane going into regular service?" I asked.

"Early next week," said the 'General.'
"Good. I'll have copies of the test certificates sent from the Plant Yard to keep on your file."
"When does the next test take place?"
"Officially within the next test take place?"

keep on your file."

"When does the next test take place?"

"Officially, within the next four years—
unless you do something awful with it, like
folding up the jib or capsizing the thing;
then you'll have to indent for a thorough
examination and test before you can use
it again. After the next routine test, it
will have to be thoroughly examined
periodically by our old friend the competent person. On building jobs the statutory
limit is fourteen months, but we like to
play safe and make it twelve months.
Keeping the odd two months in hand gives
us time to extract the machine from a busy us time to extract the machine from a busy us time to extract the machine from a busy site where they're reluctant to part with it—even on an exchange basis. You'd be surprised how people cling to a machine they've had for a lengthy period—they know all its faults, I suppose: the old principle of a known devil being better than an unknown one."

"I suppose it's all right for the driver to do the weekly inspection as usual?"

"I suppose it's all right for the driver to do the weekly inspection, as usual?"
"Of course. Sidney is an experienced operator and a conscientious type. Just make sure he puts everything down in the register and signs it, and everything will be fine. Oh, and don't let him forget the automatic indicator."

"What sort of safety rules do you recommend for the driver of a mobile area?"

"What sort of safety rules do you recommend for the driver of a mobile crane?" I re-lit my pipe and thought hard. Off-the-cuff answers to broad questions like that are a bit tricky.

"Well, the first thing the driver should do is to get hold of the maker's instruction book and make a thorough study of it. Naturally it contains a lot of general information but really that's the easiest way "Dragge" who is a practising safety.

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

to absorb safety instruction. Once the built-in safety features of the machine are properly understood, the driver should spend some time at the controls—as you know, the manufacturers will usually supply an instructor to start the new driver off, but even an experienced driver should be completely at home with the operation of his machine before he starts any heavy lifting. Next—the actual lifting motion. This is very important. The driver should be able to gather up the loose tackle without a snatch and take up the load evenly without a sudden dip of the jib. If the weight of the load is somewhere near the limit for the radius, the machine should be travelled towards the load, if possible, so as to shorten the jib, but if this can't be done, the load should be raised just clear of the ground, then halted to get the "feel" of it. Slewing should be a carefully controlled motion from start to finish, slowing down near the end of the arc to prevent the load from swinging."

"When do you think a landline should be read?"

"When do you think a landline should be used?

"Whenever a load has to be elevated to a height; also when a mobile crane has to travel with a suspended load. This business of travelling has problems all of its own. Modern mobile cranes are pretty ousness of traveling has problems are pretty stable but a bad operator tends to drive his machine to the limit. Obviously the lifting capacity of the machine will be rated for use on level ground. The raising or lowering of loads should never be performed on a slope. In this case, the indicator equipment would no longer be accurate, so the driver is in trouble all round. Another trap which drivers fall for is overhead obstructions. For some reason or other, pipe bridges and other overhead structures usually appear to the driver to be higher than they really are. This happens more often when the crane is travelling with its jib at maximum radius; it spoils the driver's sense of perspective—a kind of optical illusion I suppose. Mobile cranes have done a good deal of damage on factory premises, and given half a chance factory premises, and given half a chance they'll mess up a constructional site as well."

"But surely the driver's to be blamed for colliding with things overhead?"

"If there happened to be nothing in the way to block his view I imagine he should take a share of the blame, but I'm inclined to think the system is at fault. A travel-

ling crane should always be accompanied by a walking look-out man—particularly where overhead obstructions are present, where overhead obstructions are present. The worst kind of obstructions, of course, are bare conductor cables, and where those are present and there is the least possibility of danger, steps should be taken by some responsible person to see that the operation proceeds safely. If that is impossible under existing conditions, some alternative method must be considered—such as interrupting the supply."

"Go on." said Bill, a trifle grimly, "Any."

"Go on," said Bill, a trifle grimly. "Anything else?"

"Yes, quite a lot," I answered, "but I haven't time for all of it today. One more important point though. Always insist upon the driver of a slewing crane making sure that there is at least two feet of clearance between the slewing part of the machine and any fixtures. Otherwise somebody's liable to get caught in the crush."

PLASTICS OUTPUT TREBLED **SINCE 1950**

"World and United Kingdom produc-tions of plastics have both trebled since 1950," said Dr. R. Beeching, (development director and technical director of Imperial Chemical Industries, Ltd.), in London last week. He was delivering the "James Forrest" Lecture on the subject, "Plastics in Engineering," at the Institution of Civil

"In Britain, thermoplastics were only a third of the total in 1950," he continued,

third of the total in 1950," he continued, "but now account for nearly two-thirds of the present-day total output, which is approximately 500,000 tons per year.

"This figure is still quite small in relation to the output of steel in terms of weight, but the volume of plastics produced is about a quarter of the volume of steel.

"The increase in steel evolute size 1950.

"The increase in steel output since 1950 has been less than 35 per cent. compared with a 200 per cent. increase in the output of placing." of plastics.

Dr. Beeching said that there can be no doubt that engineers find it difficult to know when and for what purposes plastics may be used with advantage. He explained that the reasons for this difficulty may be given as "the newness, the variety and the versatility of plastics."

DIRECTORY OF BRITISH CONSTRUCTION EQUIPMENT

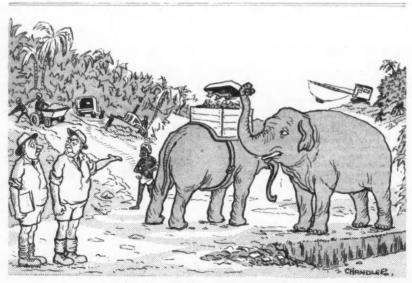
The Federation of Manufacturers of Construction Equipment have published the 1960 edition of the Directory of British Construction Equipment, which is a coperative effort by the members of the Federation to bring to the notice of users of construction equipment all over the world, the wide range of British equipment available for use in the building, civil engineering, public works and quarrying industries.

The Directory is intended primarily for the export market and is being distributed free of charge to users. The text is in English, French and Spanish, and is generously illustrated.

STANDARDS ENGINEERS' CONFERENCE

Mr. Lewis Wright, a past chairman of the British Productivity Council and chairman of the T.U.C. Production Committee, will open this year's one-day conference of engineers and others concerned with the application of standards in whater. The cation of standards in industry. The conference—the sixth of its kind—will be held on Wednesday, May 11, at the Connaught Rooms, Great Queen Street, naught Rooms, London, W.C.2.

Applications for tickets (35s. each) should be sent (at latest by April 27) to the Secretariat, I.P.E./B.S.I. Committee, British Standards House, 2 Park Street, London,



"Well, you told us to improvise!"

Current **Constructional Activities**

PROJECTS CONTRACTS **AWARDS**

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the Journal.

BUILDING AND DECORATING (See also Housing Schemes)

(See also Housing Schemes)

Atherstone, War. — Hattrell and Partners, 1 Queen's Road, Coventry, are the architects for the erection of the Tudor Rose public house at junction of St. George's Road and York Avenue, for H. E. Thornley, Ltd., Radford Brewery, Leamington Spa.

Barking, Essex. — B.C. recommended to apply for sanction to borrow £3,500 for the provision of front garden walls for dwellings at Scrattons Farm estate.

Barnsley, Yorks. — Dyson, Cawthorne and Coles, Regent Street, are the architects for erection of licensed premises in Fish Dam Lane, Monk Bretton, for Tennant Bros., Ltd. Provisional licence granted.

Berwick-on-Tweed, Northumb, — Ministry approved plan to enlarge Berwick Infirmary, for Newcastle Regional Hospital Board have approved adaptations in maternity block at Westwood Hospital. Estimated cost £60.000.

Billingham-on-Tees, Dur.—U.D.C. General Purposes Commentees.

block at Westwood Hospital. Estimated cos: 635,000.

Billingham-on-Tees, Dur.—U.D.C. General Purposes Committee have approved a seven-phase scheme for the development of the town centre. Work will include new Crown offices, two large multi-level shopping blocks, department store block, and parking facilities for 1,000 cars. First phase will comprise the Crown offices. It is recommended that the first of the shopping blocks should be erected by the Council's direct labour organisation without going to tender. Plans by the U.D.C. Surveyor, in conjunction with the consultant architect, A. J. Elder, 65 Albert Road, Middlesbrough.

Birmingham.—Public Works Committee to lease land bounded by Hampton, Mott, Howard and Buckingham Streets, Hockley, to Joseph Lucas, Ltd., Great King Street, for the erection of a multi-storey car park.

Birmingham.— City Council considering

Birmingham. — City Council considering scheme prepared by Corporation Street Estate Co., Ltd., for a two-tier shopping centre bounded by Corporation Street and Cherry Street.

Street.

Bishop Auckland, Dur.—County Motors.
Bondgate, are to rebuild their offices and showrooms. F. Hedley, architect, Farnley Mount, Nevilles Cross, Durham City.

Blackburn, Lancs.—Manchester Regional Hospital Board to prepare working drawing and bills of quantities for developments at Royal Infirmary.

Blaudon Day. Murray and Charleton, Ltd.

and bills of quantities for developments at Roval Infirmary

Blaydon, Dur.—Murray and Charleton, Ltd., Westgate Road, Newcastle upon Tyne, are to erect workshops, offices, stores, etc., at Chain Bridge Road. Turley and Associates, architects, 46 Jesmond Road, Newcastle upon Tyne.

Boston, Lincs.—James Hole and Co., Ltd., Albert Street, Newark, to erect the Ace of Spades public house at Wellington Road, Woad Farm estate (scheme still in planning stage):

R. Bradbury, staff architect, and Higgins and Partners, quantity surveyors, 96 Piccadilly, London, W.l. Estimated cost £22,000.

Bournemouth, Hants.—F. A. Howard, Coupar House, Church Lane, Blandford Forum, is the architect, for licensed premises at Poole Lane, for Hall and Woodhouse, Ltd., The Brewery, Blandford Forum.

Bridlington, Yorks.—B.C. recommended to approve the erection of 16 garages on the West Hill housing estate.

Borough Engineer to prepare scheme for construction of crematorium.

Bristol.—W. H. Watkins, Gray and Partners, & Colston Avenue, are the architects, for development schemes at Lodge Road, Kingswood, for G. B. Britton and Sons, Ltd.

Planning and Public Works Committee have approved the erection of a branch library at Greystoke Avenue, Southmead.

Burnley, Lancs.—Working drawings are being prepared for erection of the Sion Baptist Church at Hill Top, for the Trustees of the Sion Baptist Church. Willink and Dod, architects, Cunard Buildings, Liverpool, 3: R. E. Olley and Partners, quantity surveyors, 14 Dale Street, Liverpool, 2. Estimated cost £75.000.

Burnley, Lancs.—Post Office have approved the erection of new telephone exchange on the Brown Street site. Estimated cost £185,000.

Clitheroe, Lancs.—B.C. have applied for sanction to borrow £1,325 for erection of garage accommodation in the highway depot.

Cork, Eire.—Frank Murphy. 46 South Mall, Cork, is the architect for a replacement building for John Tyler and Sons, Ltd., at the junction of Patrick Street and Merchant Street.

Driffield, Yorks.—U.D.C. have approved plan for erection of fire station, petrol store and drill tower on Bridlington Road.

Dukinfield, Ches.—B.C. recommended to request Reema Construction, Ltd., Salisbury, to prepare, for submission to Ministry for approval, plans for the construction of a swimming pool at Blocksages playing fields.

Durham.—Fennell and Baddily, Bridge End Chambers, Chester-le-Street, are the architects for alterations to the Mill Inn for Vaux and Associated Breweries, Ltd.

Edinburgh.—Dean of Guild Court have approved extensions to the department of Biophysics at West Mains Road, for Edinburgh University. Estimated cost £30,000.

Elland, Yorks.—West Riding C.C. recommended to approve the provision and erection of a garage, inspection pit, concrete apron. workshop and store and necessary services at Elland Depot, Estimated cost £31,377.

Fanborough, Hants.—U.D.C. to erect 12 garages at West Heath housing estate, Cove, and 22 at Fox Lane South estate.

Glasgow —Keppie, Henderson and Partners, 21 Woodside Place, Glasgow, C.3, are the architects for proposed new biochemistry block for Glasgow Maternity and Women's Hospital Board of Management prop

cost £500.000.

Gosforth, Northumb.—Newcastle upon Tyne
Hospital Board are to spend £5.000 on the
provision of indoor toilet accommodation and
baths, etc., at 10 staff houses at 5t. Nicholas
Hospital. The Board's chief architect is P. H.

Knighton.

Hackney. — B.C. recommended to approve provision of a canteen in the Town Hall basement. Estimated cost £10,450.

Hastings, Sussex.—B.C. recommended to proceed with scheme for the construction of a block of 10 and a block of five bathing chalets at the Victoria Bathing Station. Estimated at the Vict cost £3.900. B.C. recon

cost £3.900.

B.C. recommended to appoint Caston and Porritt, 17 Havelock Road, Hastings, as quantity surveyors and obtain tenders for the construction of the practical block at Wishing Tree School. Submit plans to M.E. for ap-

Tree School. Submit plans to M.E. for approval.

B.C. recommended to approve, subject to conditions, plans for the conversion of private hotel into 15 self-contained flats at West Hill Road, for the Sussex Mutual Property Society, Ltd., 8-10 Havelock Road, Hastings; outline application for the erection of a multistorey apartment block, underground car park and refuse disposal units on site of Eversfield Hotel, 18-22 Eversfield Place, for George Stone (Hastings), Ltd., 16 Norman Road, St. Leonards-on-Sea. B. Stevens and Partners, architects, 49 Havelock Road. Hastings.

Hereford.—F. R. Bates and Son, Imperial Chambers, 70 High Street. Newport. Mon, are architects and Davis, Belfield and Everest, 9 Ashley Place, London, S.W.1, the quantity surveyors, for the erection of a one-form entry R.C. infants' and junior school at The Poole. Belmont Road, for the Trustees of the Archdiocese of Cardiff.

Ilford, Essex.—B.C. recommended to prepare plans, for submission to Ministry for ap-

proval, for the proposed new public baths and library at Fullwell Cross. Estimated cost £224,476.

B.C. recommended to approve plans for the erection of a public house. The Black Horse at High Road Corner, for Whitebread and Co., Guildford Road, Southend-on-Sea.

Ilkley, Yorks.—West Riding C.C. recommended to approve scheme for the erection of a sports pavilion for Ilkley Grammar and Secondary Schools. Estimated cost £10.000.

Jarrow, Dur.—D. Brown, Lambton House, Lambton Road, Newcastle upon Tyne, is the architect for new R.C. junior school.

Kidderminster, Worcs.—Working drawings are being prepared for the erection of the Cooper's Arms public house at Habberley estate, for W. Butler and Co., Ltd.: A. Sanford, Quatford Cottage, Bridgnorth, is the architect, and H. Vale and Sons, 47 Waterloo Road, Wolverhampton, quantity surveyors, for the scheme.

And H. Vale and Sons, 47 Waterloo Road, Wolverhampton, quantity surveyors, for the scheme.

Knaresborough, Yorks.—Golf Club propose spending £3,000 on improving accommodation and steward's quarters.

Leeds.—Clyde Crane and Booth, Ltd., are to build new office block at Rodley.

Lincoln.—City Council recommended to approve plans for improvements to the Race-course. Estimated cost £30,000.

Lytham St. Annes, Lancs.—B.C. recommended to approve plans for extension to factory in Durham Avenue, for Fylde Footwear Co., Ltd.

Manchester.—Regional Hospital Board Building and Works Committee have approved for submission to the Ministry for approval in principle scheme for improvements to casualty department and pharmacy at Victoria Memorial Jewish Hospital.

Margate, Kent.—B.C. recommended to approve scheme for alterations to the sun lounge. Work to be undertaken in the period March to June, 1961.

B.C. recommended to grant planning permission, subject to conditions, outline application for the erection of an hotel at Ramsgate Road, for New Ideal Homesteads, Ltd.; Mead House. South Street, Epsom, Surrey.

Newburn-on-Tyne, Northumb.—Metal Box Co., Ltd., are to construct a factory on the Newburn industrial trading estate.

Newbury, Berks.—B.C. recommended to approve plans for an extension to Newbury fire station, for the Berkshire and Reading Fire Authority.

Newcastle upon Tyne.—C.W.S. Manchester are seeking a site of about three acces at

Authority.

Newcastle upon Tyne.—C.W.S. Manchester are seeking a site of about three acres at Newcastle for the erection of a large traffic department. The Society's Architects' Department is at 90 Westmorland Road, Newcastle upon Tyne.

Regional Hospital Board have submitted revised sketch plans to the Ministry for a radiotherapy centre at General Hospital.

Ryder and Yates, 36 Great North Road, are the architects for alterations and additions to showrooms at the Fox and Hounds Garage, West Road.

E.C. propose following schemes: Temporary workshops at the College of Further Education, £20.000; alterations to Chillingham.

to showrooms at the Fox and Hounds Garage, West Road.

E.C. propose following schemes: Temporary workshops at the College of Further Education. £20.000: alterations to Chillingham Road School, £5.000: alterations to lavatories, Middle Street School, £4.000: additional teaching accommodation at Pendower High School, £5.000: improvements to lavatories at various schools, £10.000: kitchen improvements at various schools, £3.000.

Child and Hall. 6 Archbold Terrace, Newcastle, prepared plans for sports pavilion at Bullocksteads Pavilion.

E.C. have appointed Vail and Macara, Grainger Chambers, Hood Street, as architects for additions to Stocksfield Avenue School.

North Shields, Northumb.—Post Office propose automatic telephone exchange. Estimated cost £153.000.

Northwich, Ches.—Manchester Regional Hospital Board.

cost £153.000.

Northwich, Ches. — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for new casualty department at Victoria Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1960-61.

Ormskirk, Lancs.—C.C. have approved the erection of a school clinic. Estimated cost £13.000.

St. Andrews. Fife.

\$13.000.

St. Andrews, Fife.—The University Court propose to erect new departments of physics, mathematics, chemistry and geology on the North Haugh, between the Guardbridge Road and Buchanan Gardens. Estimated cost £2m.

St. Pancras.—B.C. recommended to appoint Mr. William Crabtree, 8 Robert Adam Street. London, W.I., as the consultant architect for the West Kentish Town redevelopment area, and to invite Reema (Construction), Ltd., Milford Manor, Salisbury, to undertake the scheme in consultation with Mr. Crabtree, subject to approval of site layout and detailed drawings and submission of a satisfactory tender.

Salford, Lancs. — Manchester Regional Hospital Board to prepare working drawings and bills of quantities for new maternity unit at Hope Hospital.

bills of quantities for new maternity unit at Hope Hospital.

Sedbergh, Yorks.—West Riding C.C. recommended to approve, for submission to M.E. for approval, scheme for extensions at Dent C.E. (Aided) School. Estimated cost £12,843.

(Aided) School. Estimated cost 21,2845.
Sheffield.—Provisional licence granted for erection of new public house The Foxhill at Wadsley Bridge, for Tennant Brothers, Ltd. Bridge Street.
West Riding C.C. recommended to approve scheme for improvements at Ecclesfield Mortomley R.C. (Aided) School. Estimated cost C10 000

scheme for improvements at Ecclesfield Mortomley R.C. (Aided) School. Estimated cost £19.009.

Sheffield.—Town Planning Committee have approved the erection of a modern store incorporating a multi-storey car park on land bounded by Barker's Pool, Cambridge Street. Burgess Street and Cross Burgess Street, for Cole Bros., Ltd., subsidiary of the John Lewis Partnership.

Post Office hope to commence work early next year on central telephone exchange in Button Lane. Estimated cost £330,000.

Sheffield.—Outline sketch plans are being prepared for erection of a new building for the metallurgy department in St. George's Square, for the University. J. W. Beaumont and Sons, architects, 51 Mosley Street, Manchester, 2; Whitehead and Nodder, quantity surveyors, 15 Montgomery Road, Sheffield, 7; Dr. Denis Matthews, structural consultant. Oldham Street, Denton, Manchester, and Hoare, Lea and Partners, mechanical and electrical consultants, 23 St. James Road, Edgbaston, Birmingham, 15.

Working drawings are being prepared and it is anticipated tenders will be invited in about four/six months' time for the erection of student hostel accommodation between Endcliffe Grange and Endcliffe Vale House, for the University. Hadfield, Cawkwell and Davidson, architects, 17 Broomgrove Road, Sheffield, 10 (in association with Daykin and Jackson); Bryden and Woodford, quantity surveyors, 33 Catherine Place, Westminster, S.W.I. and Hoare, Lea and Partners, mechanical consultants.

Tenders to be invited in the near future for tenders to be invited in the near future for

yeyors, 33 Catherine Place, Westminster, S.W.I. and Hoare, Lea and Partners, mechanical consultants.

Tenders to be invited in the near future for extension to Halifax Hall at Endcliffe, for the University, Hadfield, Cawkwell and Davidson, architects; Whitehead and Nodder. quantity surveyors, and Hoare, Lea and Partners mechanical consultants.

Southampton.—B.C. recommended to apply for sanction to borrow £2,200 for repairing the retaining wall at Bursledon Road; approve sketch plans prepared by W. H. Saunders and Son, 22 Brunswick Place; and Fowler, Grove and Haggar, 140 Lodge Road, respectively, for improvements to lavatories, etc., at Freemantle C.E. Primary and Shirley Warren Junior Schools.

B.C. recommended to appoint the following architects for these projects: Sutcliffe, Brandt and Partners, 57 Above Bar, for the conversion of former infants' school as science laboratories and housecraft rooms for Regent's Park Secondary Girls' School; M. D. Little. 17 College Place, for improvements to housecraft rooms at Latimer Street Annexe, Deanery Secondary School; W. H. Saunders and Son, for extensions to Sholing Community Centre, Butts Road.

Stockbort, Ches.—Ministry have approved in principle scheme for enclosing of bridges between ward blocks at Stepping Hill Hospital, for Manchester Regional Hospital Board. Estimated cost £105,000.

Sunderland, Dur.—Post Office have approved these construction of new parcels office in Charles Street. Estimated cost £105,000.

Sunderland, Dur.—George Clark (Sunderland), Ltd., are acquiring land for further extensions to their works at Southwick.

Sutton, Surrey.—Commercial and Suburban Properties, Ltd., 45 New Bond Street, London, W.I., propose to redevelop the site of the Cock Hotel with shops and offices.

Tynemouth, Northumb.—Borough Engineer has prepared a scheme for alterations, etc., to the Education Offices to cost £7.500. This

Tynemouth, Northumb.—Borough Engineer has prepared a scheme for alterations, etc., to the Education Offices to cost £7,500. This includes £1,600 for installing oil-fired central heating.

heating.

B.C. to proceed with stage 4 of its redevelopment scheme at North Shields.

Alterations and additions proposed in Wellington Street and Bedford Street. North Shields, for Rowells (North Shields). Ltd. The architect is C. Solomon, 30 St. Mary's Place, Newcastle upon Tyne; plans have been approved for gymnasium at St. Anselm's R.C.

Secondary Modern School, and a contract will be let soon. The architect is D. Brown, 10 Lambton Road, Jesmond, Newcastle upon

Secondary Modern School, and a contract will be let soon. The architect is D. Brown, 10 Lambton Road, Jesmond, Newcastle upon Tyne.

Watford, Herts.—B.C. recommended to approve plans for the erection of public conveniences at Bushey Arches.

West Lothian. — E.C. have approved the following building programme for the period April 1, 1960, to March 31, 1963: 1960—Branch library at Bathgate, £17,500: playing fields and sports pavilion at Boghall, Bathgate, £25,000; branch library at Armadale, £12,000: extensions and improvements to Bathgate J.S. School, £25,000; primary school at Bathgate Usest, £85,000; senior secondary school at Broxburn, £336,000.

1961—Primary R.C. school at Linlithgow, £32,000; branch library at Fauldhouse, £7,000; primary school at Linlithgow, £75,000; improvements to Longridge primary school, £10,000; county Technical College at Bathgate, £150,000; primary school at Uphall, £130,000; primary school at Uphall, £130,000; primary school at Whitchburgh, £30,000; branch library at Whitburn, £8,000; improvements to Blackridge playing field, £5,800.

1962—Senior secondary school at Whitburn, £450,000; senior secondary sch

DEMOLITION

Cowes, I. of W.—U.D.C. to prepare plans and invite tender in the autumn for the demolition of Victoria Pier.

Edinburgh.—Dean of Guild Court have approved the demolition of 26-29 Buccleuch Place, 47-51 George Square and 40-56 Windmill Lane—the site of the proposed 14-storey faculty of Arts centre—for Edinburgh University.

FENCING

Houghton-le-Spring, Dur.—U.D.C. have approved fencing of front gardens on five housing states. Estimated cost £11,375.

GAS AND WATER SUPPLY

Ince-in-Makerfield, Lancs.—U.D.C. to apply for sanction to borrow £1,287 for purchase and installation of a water booster pump at Platt

installation of a water booster pump at risks. Bridge.

Londonderry.—City Council to consider a scheme for improving the water works at Banagher, Dungiven. The scheme would cost about £2m., and includes provision of covered service reservoirs at different levels in the City itself, remodelling of the water main system. construction of a new filtration plant at Caugh Hill and the building of a new aqueduct between Banagher and Londonderry.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Great Yarmouth, Norfolk.—Port and Haven Commissioners to invite tenders for the reconstruction of the south pier.

HOUSING SCHEMES

Abram, Lanes.—U.D.C. planning approval granted for erection of 26 bunglows at Willow Street, for Taylor Bros., 82 Balcarres Road, Aspull.

Barking, Essex.—B.C. recommended to invite tenders from selected contractors for the foundations for block I at the Linton Road redevelopment area; approve in principle layout of old people's bungalows and flats to be erected in conjunction with a hostel at Bevan Avenue.

Avenue.

Battersea.—B.C. recommended to appoint Major W. V. Zinn, Collingham House, Eagle Street, London, W.C.I, as the consulting enginer, and J. E. Greatorex and Partners, 15 Berners Street, W.I, as the heating consultants for the Wilditch Street section of the Battersea Park Road housing scheme.

Bristol.—K. Nealon and Partners, 28 Orchard Street, are the architects for one 13-storey, one nine-storey and three five-storey

Orchard Street, are the architects for one 13-storey, one nine-storey and three five-storey blocks containing 131 flats, with provision for 95 lock-up garages and underground and open-air parking space, at junction of Hen-bury Road and Northover Road, Henbury Hill, for Stone and Co. (Bristol), Ltd., 140 Redland Road.

Boston, Lincs.—R.D.C. propose the erec-tion of 20 bungalows at Fishtoft, Fosdyke, Framoton, Old Leake, Swineshead, Wrangle and Wyberton.

and Wyberton.

Bridlington, Yorks.—B.C. recommended to approve the erection of 33 bungalows, Sewerby Road redevelopment scheme (third phase) to

approve layout for erection of 30 bungalows on West Hill estate.

Camberwell.—B.C. Planning Committee have approved layout plans by the Borough Architect for development of The Abbey site, Honor Oak Rise, with a seven-storey block of 28 dwellings and for development of a site at 15 Grove Park with a four-storey and a two-storey block, providing 14 dwellings, seven garages and eight tenants' stores.

Chester.—Grosvenor-Laing (Holdings), propose the erection of blocks of flats and Canadian ranch-style houses in a development scheme at Westminster Park.

Chorley, Lancs.—R.D.C. to apply for sanction to borrow £73,158 for erection of 55 houses at Euxton and Heskin.

Clacton, Essex.—J. H. Appleton, 15-16 Bedford Street, London, W.C.2, have applied to planning authority for permission to erect flats, houses, restaurant and bar on the site of the Grosvenor Court Hotel.

Clitheroe, Lancs.—B.C. to apply for sanction to borrow £65,000 for erection of 24 maisonnettes, 14 single and 18 two-bedroom bungalows on the Manor Road housing site.

Dorking, Surrey.—U.D.C. recommended to incorporate two 12-storey blocks of flats in the final phase of the housing scheme at the Goodwyns estate, North Holmwood.

Dover, Kent.—Planning Committee have approved revised layout for 55 houses, nine bungalows and 59 garages, roads and sewers at Elms Grove estate.

East Elloe, Lincs.—R.D.C. propose the erection of 28 old people's bungalows at Eastry, Minster, Ash, Eythorne, Northbourne, Tilmanstone and Sutton, and eight houses at Ash, Preston, Ripple and St. Nicholas.

Evesham, Worcs.—R.D.C. to prepare scheme for the erection of 11 bungalows at South Littleton housing site.

Estimated cost

Farnborough, Hants.—Ministry have approved the erection of 15 flats in the grounds of Baveno, Farnborough Road, and the conversion of an old stable block into a maisonnette and communal rooms, for U.D.C.

Goole, Yorks.—Ministry have approved PD C's housing programme for 1960 pro-

nette and communal rooms, for U.D.C.

Goole, Yorks.—Ministry have approved
R.D.C.'s housing programme for 1960 providing for 35 dwellings.

Gosport, Hants.—B.C. recommended to prepare plans and documents and negotiate with Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, Corn., for the erection of one four-storey block of 16 maisonnettes at Forton Road/Mill Lane, two four-storey blocks of 24 maisonnettes at Valpole Park and obtain tenders for six bed/sitter bungalows at Forton Road/Mill Lane and one two-storey block of accommodation (14 units) adjoining Trinity Green.

Hartley Wintney, Hants.—R.D.C. to invite tenders for the erection of a block of flats at Priory Lane.

tenders for the erection of a block of flats at Priory Lane.

Hastings, Sussex.—B.C. recommended to invite tenders during June for the erection of 30 units at Gate Farm and at the end of the year for 20 units at Broomgrove and 15 at Old London Road (High Bank).

Hebburn, Dur.—C.C. to creet six police houses at Lindisfarne Road.

Hull.—City Council propose the erection of 15-storey blocks of flats on Jand south side of Anlaby Road.

Isle of Wight.—Ministry have approved R.D.C.'s housing programme of 60 dwellings for the year.

R.D.C.'s housing programme of 60 dwellings for the year.

R.D.C. to invite tenders in due course for the erection of two pairs of bungalows at Chillerton and one pair at Springvale, Newbridge: prepare alternative layouts and designs for houses or flats at Heytesbury Road, Yarmouth.

Kidderminster, Worcs.—Ministry have approved layout of phase III of the development of Habberley housing estate, for B.C.

Kingston-upon-Thames, Surrey.—C.C. have approved plans for the demolition of 31-33 Surbiton Road and 30-38 Penrhyn Road and erection of flats on the site, for B.C.

Liverpool.—Housing Committee have approved the erection of 244 dwellings on part of the Fazakerley Cottage Homes estate, also planned for this site is an II-storey block of flats.

nats.

Lytham St. Annes, Lancs.—B.C. recommended to approve plans for 15 detached bungalows and private garages in Dover Road, Margate Road, and Clarendon Road North, for John Halstead, Ltd., 19-21 Highfield Road, Blackbool.

John Halstead, Ltd., 19-21 Highfield Road. Blackpool. Maidenhead, Berks.—B.C. recommended to approve in principle the erection of 36 flats in three blocks on land adjoining Desborough Park.

Margate, Kent.—B.C. recommended to approve in principle plans for the erection of 100 units of accommodation as the first stage of the development of land between Dane Valley Road and Millmead Road.

Middlesbrough, York. — Ministry have approved the development of land at Blue Bell Farm. Acklam, providing for 50 bungalows and 20 houses with two shops, for Shannon Contractors, Ltd.

J. Miller and Partners, Wakefield, are to develop 10 acres of land at The Avenue, by the erection of 114 houses and bungalows and a house and shop.

Northam, Devon.—U.D.C. propose the erection of 18 bungalows at Burrows Way.

Nortingham.—Land and General Develop-

tion of 18 bungatows at Burrows Way.

Nottingham.—Land and General Developments, Ltd., 8 Berkeley Street, London, W.1.
propose the erection of a Y-shaped block, containing flats intended for business people, together with smaller flats for single and retired persons, licensed bar and a restaurant, with terraces overlooking the river at Trent

Bridge.

Nuneaton, War.—B.C. recommended to proceed with scheme for a block of flats in Bottrill Street adjoining Meadow Street; approve proposals for a block of two-storey old person's flats at corner of Cedar Road and Beechwood Road, Camp Hill.

and Beechwood Road, Camp Hill.

Ripon, Yorks.—City Engineer to prepare layout of site for erection of 20 houses at Oak Road.

Romsey and Stockbridge, Hants.—Ministry have approved the erection of 50 dwellings during the year at North Baddesley, Woodley Close, Nursling, Wellow, Awbridge and King's Somborne, for R.D.C.

St. Pancras.—B.C. recommended to approve in principle layout proposals for redevelopment of Camden Town No. 1 estate (Wrotham Road) by erection of 249 dwellings; recommnded to engage Kendrick Findlay and Partners, 5-15 Cromer Street, W.C.1, as the architects to prepare a sketch scheme for redevelopment of 17-22 Rochester Road.

Sheffield.—Ministry have approved layout

Sheffield.—Ministry have approved layout or 300 dwellings on land at Middlewood, for

for 300 dwellings on land at Middlewood, 10s. City Council.

Stoke Newington.—B.C. recommended to approve a revised scheme for 16 flats in a four-storey block, with eight garages, at Green Lanes site. Estimated cost £42,950.

Sunderland, Dur.—J. and M. Fowler, Ryhope Road, are seeking permission to build 84 houses on the Ryhope Grange estate.

Totnes, Devon.—B.C. recommended to approve layout plans for the erection of old people's bungalows, and garages at Culverdale estate.

people's bungaiows, and garages at Culverdale estate.

Tynemouth, Northumb.—G. H. Grav and Partners. Camden Street. North Shields, are the architects for converting 12 Lovaine Place, into nine flatlets; J. H. James and Son, Archer Street, Wallsend, are to erect further houses on the Preston Road estate to plans by william Stockdale. 73 Howard Street, North Shields; M. J. Liddell and Son, 36 Great North Shields, Newcastle upon Tyne, are to erect 88 detached, and 22 semi-detached houses at Monkhouse Farm; S. Storer, Reed Street. North Shields, seeking permission to erect two shops with flats over at the corner of Heaton Terrace and the Coast Road, North Shields.

Heaton Terrace and the state of the state of

PLAYING FIELDS, PARKS, ETC.

PLAYING FIELDS, PARKS, ETC.

Farnworth, Lancs.—B.C. recommended to apoly for sanction to borrow £19,932 for development of Harper Green playing fields.

Glasgow.—City Council recommended to approve plans for playing fields adiacent to the new secondary school at Cranhill. Estimated cost £40.360. Approval in principle has been given to the layout of blaving fields at Shield-hall covering an area of about 43 acres.

Kidderminster, Worcs.—B.C. recommended to proceed with scheme for the development of Habberlev Road playing field.

Portsmouth.—Parks and Open Spaces Committee have approved, in principle, five-year scheme for demolishing the castle wall, and the construction of a sports arena, winter gardens. ornamental lake, and other amenities at Southsea Castle. Estimated cost £500.000. Parks and Open Spaces Committee po annly for sanction to borrow £31.200 and £28.005, respectively, for the extension of Drayton open space.

RIVER AND FLOOD PREVENTION WORKS

St. Helens, Lancs.—Mersey River Board have approved scheme to improve Sutton Brook. Improvement will be from the weir, in Watery Lane unstream under Ellamsbridge Road and the railway to the outfall of the Waterdale reservoir at Garards Lane. Work expected to commence shortly. Estimated cost £50,000.

Wisbech, I. of E. — Nene River Board to invite alternative tenders from selected contractors for steel and concrete piling adjacent to Wisbech Bridge.

ROADS, BRIDGES AND SITE WORKS

Aylesbury, Bucks.—B.C. recommended to approve scheme for the improvement of Carrington Road. Estimated cost £7,000.

Barking, Essex.—B.C. recommended to apply for sanction to borrow £13,250 for the reconstruction of Jenkins Lane, north of the by-pass.

Bingley, Yorks.—West Riding C.C. have approved improvements to Wilsden Road junction at Harden and Manywells. Estimated cost £13,700.

Chester.— City Council recommended to

cost £13,700.

Chester. — City Council recommended to approve plans for the making-up of Curzon Park North; apply for sanction to borrow £130,000 for the improvement of Pepper

Dorking, Surrey.—C.C. have approved provision of a subway under Dorking By-pass in the vicinity of Chart Downs.

Surrey Planning Committee have approved the provision of three car parks on the Mickleham By-pass, Burford Bridge, Swanworth cutting and the entrance to Norbury Park.

Hackney.— B.C. recommended to approve road widening works at Andrews Road and Sheep Lane. Estimated cost £21,000.

Havant, Hants.— Co. Roads and Bridges Committee have approved the rebuilding of the culvert bridge carrying the Lavant stream in North Street.

committee nave approved the rebuilding of the culvert bridge carrying the Lavant stream in North Street.

Hebburn, Dur. — U.D.C. Surveyor has prepared provisional estimates for site works for housing developments in Station Road, to cost £45.065, and for site works for proposed shops in the same area, to cost £45.590.

Heckmondwike, Yorks.—West Riding C.C. recommended to approve scheme to enlarge the turning space, remake the drive and erect wire fencing at the Occupation Centre. Estimated cost £2.000.

High Wycombe, Bucks.—B.C. recommended to prepare plans for making-up Amersham Hill Drive.

Ilkeston, Derbys. — B.C. recommended to approve scheme for the provision of a garage site (for 61 cars) and access road at Kirk Hallam Estate. Estimated cost £1,000.

Keightey, Yorks.—West Riding C.C. have approved scheme for road widening near the Busfield Arms, East Morton. Estimated cost £6.185.

E6.185.

Lanchester, Dur. — R.D.C. to enlarge cemeteries at Burnhope and Langley Park.

Leeds.—Town Planning Committee have approved in principle plan for an elevated road at a height of 20ft, and running for 600yd., to ease congestion at Sheepscar.

Londonderry.—J. C. MacKinder. city surveyor is to prepare a scheme and estimated cost for the electrical heating off Shipquay Street.

veyor is to prepare a scheme and estimated cost for the electrical heating off Shipquay Street.

Margate, Kent.—B.C. recommended to approve plans and invite tenders for private street works at Princes Gardens; approve schemes for flagging footpaths at Edgar Roadboth sides and Sea Road, northern footpath between western slioway and main slipway. Westvate Bav. Estimated cost £2,473 and £1.796 respectively.

Merton and Morden, Surrey.—U.D.C. are to submit a scheme to the Ministry for the proposed abolition of Merton Park level crossing by raising the railway on to a flyover. Estimated cost £1m.

Pontefract. Yorks.—West Riding C.C. recommended to approve the extension to surface water drains, completion of site roads, and hardstandings, construction of concrete wash area, erection of cement, coal and coke stores, etc., at Fitzwilliam Depot. Estimated cost £4,095.

stores, efc.,

stores. etc.. at Fitzwilliam Depot. Estimated cost £4.095.

Staffordshire.—M.T. have approved scheme for widening the Ruseley-Lichfield Road to the north of Lyncroft Villa, for C.C. Estimated cost £64.500.

Walthamstow. Essex.—B.C. recommended to proceed with scheme for the construction of a footnath and retaining wall from Belle Ville Road to Thorne Hall Infants' School. Estimated cost £1.500.

West Ridling.—C.C. recommended to approve the following road widening schemes: Albion Street and Bridge Street. Castleford. estimated cost £61.231 and £47.978. respectively; Broad Hills railway bridge to Penistone Bridge, £62.386; Oldham-Standedge Road. near Saddleworth Station, £89.821: Oxeang Laithe to Elwood Cottages. Settle, £19.400: Holywell Bridge to Far Skibden. on the Skipton to Knaresborough Road, £25.000: Skew Bridge to Bottoms Mill, Walsden, £18.338; Copperhouse Canal Bridge. Todmorden, £24.745.

C.C. recommended to approve the construction of 10 cattle grids on the High Bentham and Slaidburn. Copy Nook and Clapham and Stainforth and Kilnsey (class III) county roads in the Bowland and Settle rural districts. Estimated cost £3,975.

Worksop, Notts. — B.C. recommended to apply for sanction to borrow £26,696 for the construction of roads in the Marecroft clearance area; approve, in principle, scheme for the construction of a new road between Retford Road and the Kilton Road-Kilton Hill junction. Estimated cost £31,000.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Acton, Middx.—B.C. recommended to submit to the Ministry a scheme for the disposal of sewage from Acton to the West Middlesx drainage system. Estimated cost £735,731.

Alnwick, Northumb. — R.D.C. to invite tenders for sewage disposal scheme for parish of Togston.

tenders for sewage disposal scheme for parisn of Togston.

Ashby-de-la-Zouch, Leics. — R.D.C. have approved, in principle, scheme for new sewage disposal works at Swannington. Estimated cost £29,800.

Goole, Yorks.—R.D.C. to prepare details for sewage disposal scheme for Airmyn, for submission to the Ministry. Estimated cost £21,400.

submission to the Ministry. Estimated cost £21.400.

Hastings, Sussex.—B.C. recommended to approve the laying of foul and surface water sewers at Ponswood industrial estate extension.

High Wycombe, Bucks.—B.C. recommended to invite tenders for a drainage relief scheme in the Hughenden Valley. Estimated cost £76.500.

Jarrow, Dur.—B.C. to culvert the River Don and lay out the adjacent land as a trading

and lay out the adjacent land as a trading estate.

Lanchester, Dur,—R.D.C. considering plans for the extension and improvement of sewage disposal at Ushaw College, Langley Park, Esh Winning and Castieside.

Northallerton. Yorks.—R.D.C. have submitted to the Ministry scheme for sewerage and sewage disposal at Barrowby. Estimated cost £19,700.

STREET LIGHTING

Longton, Lanes.—Parish Council to apply for sanction to borrow £20,000 for street lighting.

CONTRACTS

CONTRACTS

Full details of the Contracts marked will be found in our Advertisement Columns.

BUILDING AND DECORATING (See also Housing Schemes)

Aberdeen.—Painter work of 26 houses in course of erection at Great Northern Road, section II, for City Council. Applications, in writing, to the City Architect, 11 Broad Street. Aberdeen. Tenders by April 8.

Antrim.—Fire precautionary constructional works at the following three buildings, for County Welfare Committee: Magheramorne Old People's Home; also Children's Homes at Clogrennan, Larne and Conway, Islandmagee. Documents from Crofton Dalzell, architect. Portrush. Deposit £1 ls. Tenders by April 6.

Antrim.—Painting and decorating work at "The Hawthorns" Old People's Home. Carrickfergus. for County Welfare Committee. Documents from Crofton Dalzell, architect, Bath Street, Portrush. Deposit £1 ls. Tenders by April 6.

Ballynahinch. Down.—Supply and laying of wood block floors to Assumption Grammar School, for the Trustees. Documents from Garard A. Kelly, architect, 72 Castle Street, Belfast. Deposit £3 3s. Tenders by April 7.

Basingstoke, Hants.—Construction of 39 hardstandings and 15 traditional garages, and ancillary approach road works in the vicinity of Kingsclere and Lancaster Roads, for B.C. Documents from the Borough Architect. Municipal Buildings. Basingstoke. Deposit £1 ls. Tenders by April 11.

Belfast.—Conversion of outbuildings at Seymour Hill House. Dunmurry. to provide 11 dwellings and eight garages, together with ancillary and engineering works, for Northern Ireland Howsing Trust. Documents from the House. Dunmurry to provide 11 dwellings and eight garages, together with ancillary and engineering works, for Northern Ireland Howsing Trust. Documents from the Housen parts by April 14.

Belfast.—Conversion of existine dwelling-houses at 62. 64 66 and 68 Clifton Park Avenue to eight flats and four maisonnettes, for City Council. Documents from the Housing Architect's Department. 97 Townsend Street, Belfast, 12 Deposit £3. Tenders by April 19.

Belfast.—

able to the City Council). Tenders by April 19.

Belfast.—Alterations to form a day hospital at 64 Clifton Street. Belfast, for Holvwell Hospital Management Committee. Applications to the Secretary, Holywell Hospital. Aprim. by March 30.

Belfast.—Internal and external painting to St. Finian's Primary School, Falls Road, Belfast. Documents from P. and B.

Gregory, architects, 5 Crescent Gardens, University Road, Belfast, 7. Tenders by

Gregory, architects, 5 Crescent Gardens, University Road, Belfast, 7. Tenders by April 7.

Bingham, Notts.—Alterations and improvements to 38 houses. Keyworth, for R.D.C. Documents from the Surveyor, Council Offices, Bingham. Deposit £5. Tenders by April 11.

Birkenhead, Ches.—Alteration to building to form school meals kitchen dining room at lonic Street Central Kitchen, Rock Ferry, for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by April 11.

Bournemouth, Hants.—Internal and external redecorations at one or more of the following schools, for B.C.: Internal redecorations: (Contract P.65) Moordown St. John's School: (S.44) Boscombe Secondary School; (S.48) Bournemouth School; (S.49) Secondary School Pavilion, Castle Lane Playing Fields; (F.13) Municipal College. Internal and external redecorations: (S.60) Summerbee Secondary School. External redecorations: (P.60) East Howe Infants' School; (P.61) Hill View Infants' School; (P.62) Kinson C.P. School; (P.63) Pokesdown C.P. School; (P.64) Summerbee Junior School; (S.47) Winton Secondary School. Documents from the Borough Architect (Room 106), Town Hall. Bournemouth. Deposit £2 2s. Tenders by May 7.

Brecon.—Following works, for B.C.: (1) Painting of 36 houses at Maendu Terrace and Dorlangoch; (2) erection of a public con-

the Borough Architect (Room 106), Town Hall. Bournemouth. Deposit £2 2s. Tenders by May 7.

Brecon. — Following works, for B.C.; (1) Painting of 36 houses at Maendu Terrace and Dorlangoch; (2) erection of a public convenience at Dinas Road; (3) demolition of 2 and 3 Warren Road Flats. Documents from the Borough Surveyor, Municipal Offices, Brecon. Tenders by April 23.

Brentford and Chiswick, Middx. — External painting work required to 96 flats at St. Thomas Estate, Montgomery Court, Chiswick, Or B.C. Documents from the Borough Engineer and Surveyor, Town Hall, W.4. Tenders by April 8.

Bristol.—Renewal and renovation of stonework at certain schools, for City Council. Applications in writing to Chief Education Officer, Council House, Bristol, 1.

Bristol.—Painting certain schools, for City Council. Applications in writing to Chief Education Officer, Council House, Bristol, 1.

Bury, Lancs.—External painting of Brandlesholme 2, Huntley Fold 1, Redvales 1, and Woodhill housing estates, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by April 23.

Bury, Lancs.—Major adaptations at School of Arts and Crafts, Broad Street, for B.C. Documents from Borough Engineer, Town Hall, Bury. Deposit £2. Tenders by April 18.

Castle Donnington, Leics.—External painting of 284 traditional houses and 18 airey-type houses, for R.D.C. Documents from E. N. Pearson, surveyor, Council Offices, 4 Clappun Street, Castle Donnington. Deposit £1 Is., cheque payable to R.D.C. Tenders by April 25.

Chipping Norton, Oxon.—Erection of 10 prefabricated garages at Hughes Close, Charlbury, for R.D.C. Documents Read Street, for R.D. Renders D. Render S.P. Render S

Pearson, surveyor, Council Offices, 4 Clapgun Street, Castle Donnington. Deposit £1 ls., cheque payable to R.D.C. Tenders by April 25.

Chipping Norton, Oxon.—Erection of 10 prefabricated garages at Hughes Close, Charlbury, for R.D.C. Documents from S. P. Bendle, surveyor, Hillside, Albion Street, Chipping Norton. Tenders by April 16.

Chislehurst and Sidcup, Kent.—External painting to 500 properties in six groups, and internal decorations to 160 properties in five groups, for U.D.C. Applications to Housing Manager, Council Offices, Sidcup Place, Sidcup. Tenders by April 20.

Cookstown, Tyrone.—Repainting 76 dwellings, for R.D.C. Documents from James M'Cammon, clerk, The Boardroom, Cookstown, Deposit £1. Tenders by April 8.

Cornwall.—Penryn County Secondary School, following sub-contracts, for C.C.: (a) Hardwood flooring; (b) polished granolithic flooring; (c) tarmacadam and bitmac paving; (d) curtaining; (e) felt roofing; (f) sanitary fittings (supply only); (g) electrical services. Applications to the County Architect, County Hall, Truro, by April 9.

Dartford, Kent.—The external decoration of 733 houses, bungalows and shops at Temple Hill, Lowfield Street and Heath Lane estate, for B.C. Documents from Thomas Armstrong, town clerk, Council Offices, High Street, Dartford, Kent. Tenders by April 11.

Daventry, Northants.—Exterior painting of the following houses, for R.D.C.: (a) Fourteen at Byfield Road. Woodford Halse; (b) 19 at The Causeway, Byfield; (c) 38 at Fessey Road and Woodford Road, Byfield; (d) 33 at Jubilee Road, Byfield, Occuments from the Council's Surveyor, Council Offices, Church Walk, Daventry. Tenders by April 19.

**Deptford, Kent.—Certain redecoration works, for B.C. Tenders by May 9.

Docking, Norfolk.—External painting of the following Council houses, for R.D.C.: Brancaster, Mill Hill, 28; Docking, Northocte. 20; East Rudham, Groveside, 34; Great Bircham. Oueen's Crescent, 12; Great Bircham. Golgate, 14; North Creake, Dunn's Lane, 24; North Creake, West Hill, 12; Ringstead.

Peddars Way, 17; Snettisham, Saffronside, 12; South Creake, The Green, 14. Contractors may tender for the whole or part of the works. Documents from the Surveyor and Housing Officer, Council Offices, Station Road, Docking. Tenders by April 13.

Doncaster, Yorks.—Alterations and additions to public conveniences, Gainsborough Road, Bawtry, contract 336, for R.D.C. Documents from J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by April 22.

Durham.—Repairs and improvements at Sedgefield estate (smallholdings), for C.C. Applications to County Architect, South Street, Durham, by April 6.

Ebbw Vale, Mon.—Erection of four garages between Pentwyn and Tredegar Road, for U.D.C. Documents from the office of J. Leslie Thomas, architect, Council Offices, The Walk, Ebbw Vale. Deposit £3 3s. cheque, payable to U.D.C. Tenders by April 7.

*Eccles, Lancs.—Erection of branch library in Liverpool Road, for B.C. Deposit £3 3s. Tenders by April 25.

Enniskillen, Fermanagh.—Erection of new voluntary primary school for boys, Derrin Road, Enniskillen. Documents from W. H. McEvoy, quantity surveyor, 73 May Street, Belfast, 1. Deposit five guineas (cheque only). Tenders by May 3.

Essex.—Erection of the following, for C.C.: (1) Civil Defence Centre, Waltham Abbey, in traditional construction, estimated cost £5,500; (2) Halstead Holy Trinity C. of E. Primary School, new lavatory block in traditional construction, to be erected at rear of school, estimated cost £5,500; (3) Billericay Ramsden Hall School, staff houses in traditional construction, estimated cost £4,800. Separate applications to H. Conolly, county architect, County Hall, Chelmslord, by April 2.

Essex.—External painting and general repairs to 20 smallholders' houses and build-

of school, estimated cost £5,500; (3) Billericay Ramsden Hall School, staff houses in traditional construction, estimated cost £4,800. Separate applications to H. Conolly, county architect, County Hall, Chelmsford, by April 2.

Essex.—External painting and general repairs to 20 smallholders' houses and buildings and four cottages at Eastwoodbury Lane, Eastwood, Southend-on-Sea, for C.C. Documents from the County Land Agent and Valuer, 69 Duke Street, Chelmsford. Tenders by April 20.

Failsworth, Lancs.—Supply and erection of a Canadian red cedarwood pavilion at the Higher Park, approximate dimensions 30ft. x 24ft. x 9ft. to the eaves, with a small ancillary extension, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Oldham Road, Failsworth. Deposit £1 1s. Tenders by April 19.

Farborough, Hants. — Erection of public conveniences (men's section) in High Street, for U.D.C. Documents from the Engineer and Surveyor, Municipal Offices, Alexandra Road, Farnborough, Tenders by April 29.

Fermanagh.—Erection and completion of a new 120-pupil intermediate school at Newtownbutler, for Co. E.C. The building will be of traditional construction partially faced in brickwork. Documents from H. M. Jones, architect, County Buildings, Enniskillen, or F. H. Wright and Partners, quantity surveyors, 79 Botanic Avenue, Belfast, 7. Deposit £3 3s cheques payable to the Education Committee. Tenders by May 2.

Halstead, Essex. — All or any of the following dwellings, for R.D.C.: Six at Bures Hamlet; four at Belchamp Walter; 11 at Earls Colne; two at Gestingthorp; nine at Great Yeldham; and four at Toppesfield. Documents from D. G. Armstrong, architect, 57a High Street, Braintree.

Hampstead.—External painting of the following housing estates, for B.C.: (1) Komplay Road—seven houses; (2) Broadfield and Fairhurst—eight houses and 162 flats; (3) South End Close—140 flats and staircases; (4) Wood Field and Barn Field—92 flats and staircases. Applications to B. H. Wilson, town clerk, Town Hall, Haverstock Hill, L

Offices, Bury Road, Haslingden. Tenders by April 11.

Irthlingborough, Northants.—Modernisation of bathrooms and kitchens in 24 houses, 39-45 and 10-48 Hayway, for U.D.C. Documents from A. Dewhurst, Council Offices, Irthlingborough. Tenders by April 9.

Isle of Wight.—Completion of adaptations at the County Seely Library, Newport, for C.C. Applications to the County Architect, County Hall, Newport, I. of W., by April 6. Deposit £1 ls., payable to Council. Tenders by April 21.

Keighley, Yorks.—Internal decoration (five hutted wards) at St. John's Hospital, Fell Lane, for Bingley, Keighley, Skipton and Settle Hospital Management Committee. Documents

from the Superintendent Engineer, St. John's Hospital, Keighley. Tenders by April 14.
Kingston-upon-flames, Surrey.— External redecoration of 98 houses and 147 flats at Chessington, Kingston, Surbitton and Tolworth, for B.C. Documents from the Borough Surveyor. Guidhall, Kingston-upon-lhames, Deposit £2 2s. Tenders by April 11.

Kirkcaidy, Fifes.—All-trades-basis for old men's sheiter at Brodick Road, Templehall, for B.C. Documents from James Gentles and Son, Osborne House, Kirkcaldy. Tenders by April 11.

Limavady, Londonderry.— Construction of automatic telephone exchange, Limavady, for Ministry of Finance. Documents seen at Room 103, Law Courts Buildings, Belfast, and at Ministry of Labour and National Insurance Local Office, Killane Road, Limavady. Forms and Bills of Quantities from Room 103. Deposit £2. Tenders by April 11.

Londonderry.—Erection of nurse's residence and clinic, Main Street, Maghera, for CC Documents from W. and M. Given, architect, 1 Waterside, Coleraine. Deposit £3 3s.

Luton, Beds.—Conversion of classroom to science laboratory, Stopsley C.S. Boys' School, for B.C. Documents from Borough Architect, Town Hall, Luton. Tenders by April 11.

*Mablethorpe and Sutton. Lines.—Beach chalets at Mablethorpe, for U.D.C. Deposit £1 Is. Tenders by April 11.

*Manchester.—Exconstruction of the Cannon Street bus terminus, for City Council. Documents from the General Manager, Corporation Transport Department, 55 Piecadilly, Manchester, 1. Tenders by April 11.

Manchester.—Excetion of shelter and toilet. etc., at: (a) Culmere Road; (b) Rothley Avenue. Wythenshawe, for City Council. Documents from City Architect, P.O. Box 488, Town Hall. Tenders by April 6.

Manchester.—Excetion of shelter and toilet. etc., at: (a) Culmere Road; (b) Rothley Avenue. Wythenshawe, for City Council. Documents from City Architect, P.O. Box 488, Town Hall. Tenders by April 12.

Manchester.—Excetion of shelter and toilet. etc., at: (a) Culmere Road; (b) Rothley Avenue. Box 488, Town Hall. Manchester.—Tenders by April 20.

Moselo

House, Newmarket. Deposit £2 2s. Tenders by April 22.

Newtown and Llanllwchaiarn, Monts,—
Erection of a new sale rang and extensions at the Smithfield, for U.D.C. Documents from Norman Morrs, clerk and chief financial officer, Town Hall, Newtown. Deposit £2 2s. Tenders by April 20.

Northern Ireland.—Alterations and repairs to a residence at Saintfield, for General Health Services Board. Documents from the Secretary, 27 Adelaide Street, Belfast, 2. Tenders by April 18.

Northern Ireland.—Internal repainting of estate office and 10 staircases of D-type flats at Portadown, Redmanville, for Housing Trust. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Tenders by April 6.

Northern Ireland.—Cement painting and external rendering of 264 dwellings at Dun-

gannon (Drumcoo), for Housing Trust. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Tenders by April 6.

North Riding.—Following, for C.C.: Painting work at Askrigg, Yorebridge Grammar School: Richmond High School for Girls; Catterick Camp Le Cateau Lines Junior County School; Guisborough Providence Junior County School; Ormesby County School, near Middlesbrough; Thornaby Mandale Junior County School. Documents from F. Barraclough, County Hall, Northallerton. Tenders by April 8.

Nottingham.— Construction of a biology

Nottingham. — Construction of a biology laboratory at Margaret Glen-Bott Secondary School, Sutton Passey's Crescent, Wollaton Park, for City Council. Documents from R. M. Finch, city engineer and surveyor, The Guildhall, Nottingham. Deposit £2. Tenders by April 13.

Guildhall, Nottingham. Deposit £2. Tenders by April 13.

Ormskirk, Lancs. — Following, for U.D.C.:
(a) Repairs prior painting at 209 houses, and (b) external painting of 463 houses at Burscough and Ormskirk. Documents from the Surveyor, Council Offices, Burscough Street, Ormskirk. Tenders by April 14.

Ormskirk. Tenders by April 14.

Oundle and Thrapston, Northants.—Painting 42 houses and eight bungalows at Ringstead; 12 houses and two bungalows at Glapthorne; six houses at Twywell; and six houses at Woodford, for R.D.C. Documents from the Surveyor, Council Offices, Midland Road, Thrapston, Kettering. Tenders by April 11. Road, April 11

Road, Thrapston, Nettering.

April 11.

Queensbury and Shelf, Yorks. — External painting of the following properties, for U.D.C.: (a) Thirty-six houses—Belle Vue Road, Shelf; (b) 18 houses—Hillcrest Road, Queensbury; (c) 23 houses—Moorclose Estate, Ambler Thorn, Queensbury. Documents from G. A. Muse, housing manager, Council Offices, Queensbury, Bradford. Tenders by April 11.

Ambler Thorn, Amuse, housing manages, Offices, Queensbury, Bradford. Tenders by April 11.

Pewsey, Wilts.—External painting and colour-washing of 54 houses as follows, for R.D.C.: (a) 1 to 48 Perham Crescent, Ludgershall: Tenders may be submitted for one or both of the groups. Documents from the Engineer and Surveyor, Council Offices, Pewsey. Tenders by April 20.

Pewsey, Wilts.—Modernisation of the following pre-war houses, for R.D.C.: (a) 1 to 12 Down View, Upavon; (b) 13 to 24 Down View, Upavon; (c) 35 to 40 and 47 to 52 South View, Ludgershall. Tenders may be submitted for all or any of of the groups. Documents from the Engineer and Surveyor, Council Offices, Pewsey. Tenders by April 20.

*Richmond, Surrey.—Erection of gardens, Strick and Surveyor, Council Offices, Pewsey. Tenders by April 20.

rewsey. Tenders by April 20.

*Richmond, Surrey.—Erection of gardens, for B.C. Deposit £3 3s. Tenders by April 20.

Rochford, Essex.—External painting and minor repairs at 284 dwellings and 16 garages in the following parishes, contract 281, for R.D.C.: Rochford, 180 dwellings and 16 garages; Great Wakering, 32 dwellings; Barling Magna, eight dwellings; Hullbridge, 16 dwellings; Canewdon, 20 dwellings, Documents from the Housing Officer, Council Offices, Rochford. Deposit £1. Tenders by April 12.

Ross and Cromarty.—Proposed old people's home at Balmarino Drive, Stornoway, Isle of Lewis, for C.C.. all or separate trades. The trades involved are: (a) Site works; (b) excavator, mason, concrete and brick; (c) carpenter and joiner; (d) roof tiler and roughcast: (e) plumber; (f) plaster; (g) metal windows; (h) glazier; (i) painter. Applications to R. Armour and Partners, quantity surveyors, 375 Union Street, Aberdeen, by April 16.

Ross and Cromarty.—Erection of new

April 16. Ross

veyors, 375 Union Street, Aberdeen, by April 16.

Ross and Cromarty.— Erection of new county offices at Stornoway, on an individual trades or several works basis. for C.C.:

(1) Site preparation work; (2) excavator, concretor, mason, brick and reinforced concrete, etc., works; (3) carpenter, joiner and ironmonger works; (4) slater and roughcast works; (5) copper roofing work; (6) plumber work; (7) plaster and cement works; (8) glazier work; (9) painter work. Applications by letter to William I. Talbot, chartered quantity surveyors, 4 Tulloch Street, Dingwall, by April 15.

to William I. Talloot, Chartered Surveyors, 4 Tulloch Street, Dingwall, by April 15.

Rothesay, Bute.—Proposed single-storey out-patients clinic of approx. 5.700 sq. ft. floor area, at Victoria Hospital, for the Bute and Cumbrae Hospitals Board: Excavator, brick. etc., works; carpenter, joiner and glazier works; plaster and roughcast works; plumber work; tile work; painter work. Submit names to The Secretary, Bute and Cumbrae Hospitals Board of Management, 34 Castle Street, Rothesay, by April 8.

of Management, 34 Castle Street, Rothesay, by April 8.

Rugby, War. — Providing bathrooms, hot water supplies and other ancillary work at 67 Council houses located in five villages, for R.D.C. Documents from the Council's Engineer and Surveyor, 16 Warwick Street, Rugby. Deposit £2 2s. Tenders by April 8.

*St. Albans, Herts.—London Colney depot—reconstruction, for R.D.C. Tenders by April 5.

*St. Helens, Lancs.—Shops and maisonnettes at Tickle Avenue—Chancery Lane site, for B.C. Deposit £2 2s. Tenders by April 26.
Spilsby, Lincs.—Modernisation of existing Council houses, for R.D.C.: Mumby—eight: Addlethorpe—six; Chapel St. Leonards—four, comprising addition of bathrooms, hot and cold water supply and drainage to any or all of the 18 houses listed above. Send names to G. F. Taylor, engineer and surveyor, Council Offices, Toynton Hall, Spilsby. Tenders by April 23.

April 23.

Sunderland, Dur.—Supply and fixing of precast concrete floors and in-situ staircases in 26 dwellings, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by April 15.

Swaffham, Norfolk.—Repairs and renovations at the Assembly Rooms, for U.D.C, consisting of roof stripping and re-covering, including new ceilings with incidental works of repair and redecoration. Documents from J. Miles, surveyor, Town Hall, Swaffham. Tenders by April 11.

consisting or roof stripping and re-covering, including new ceilings with incidental works of repair and redecoration. Documents from J. Miles, surveyor, Town Hall, Swaffham. Tenders by April 11.

Thingoe, Suffolk.—Repainting of houses and bungalows as follows, for R.D.C.: Barningham, 19; Barrow, six; Great Barton, 23; Honington, 20; Pakenham, 46; Risby, nine; Nowton, six; Thelnetham, 12. Documents from the Engineer and Surveyor, 1 Northgate Street, Bury St. Edmunds. Tenders by April 27.

Truro, Cora. — Following, for R.D.C.: (1) The installation of new drainage at 1-8 Trethurffe Council Houses, Ladock; (3) the repair and external painting of 13-26 Budnick Estate, Perranporth. Documents from the Housing Manager's Office, Rural Council Hall, River Street, Truro. Tenders by April 11.

Wallasey, Ches.—External painting of various schools, for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by April 19.

Wallasey, Ches.—Extension and alterations to 33 Seabank Road—hostel for aged and infirm (18 persons), for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by April 11.

Wath-upon-Dearne, Yorks.—Erection of an aged persons' community, comprising 64 dwellings, for U.D.C.: Eight two-storey blocks, containing 28 self-contained two-bedroom flats; seven one-bedroon bungalows; one block of unit accommodation containing 28 falters and one self-contained flat; one tenants' meeting hall. Documents from the Engineer and Surveyor's Office, Town Hall, Wath-upon-Dearne. Deposit £3 3s. Tenders by April 25.

West Riding.—Internal and external painting at Goole Secondary Modern School

West Riding.—Internal and external painting at Goole Secondary Modern School itchen, for C.C. Documents from J. H. rabtree, Education Offices, Goole. Tenders

kitchen, for C.C. Documents from J. H. Crabtree, Education Offices, Goole. Tenders by April 8.

West Riding.—Laying of industrial asphalt and vinyl tiles at Uppermill Parochial School, for C.C. Documents from A. Beardsall, 35 Kirkgate, Huddersfield. Tenders by April 16.

West Riding.—Adaptations and additions to the Dental Clinic, 13 Hanover Street, Batley, for C.C. Applications to the County Architect, Bishopgarth, Westfield Road, Wakefield, by April 11. Tenders by May 9.

West Riding.—Repairs and improvements at the County Police Houses 10, 12 and 16, Marlborough Drive, Tadcaster, for Standing Joint Committee. Applications to the offices of the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate, by April 8. Tenders by April 29.

West Sussex.—Extensions to existing canteen kitchen at Connaught Road Primary School, Littlehampton (Job 6243), for C.C. Applications to the County Architect, County Hall, Chichester, by April 4.

Whitworth, Lanes.—External painting of 11 houses on various housing estates, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Whitworth, Tenders by April 9.

Widnes, Lanes.—Following works, for B.C.: (1) Renewal of spar-dashing to 52 houses or

Documents from the Engineer and Surveyor, Council Offices, Whitworth. Tenders by April 9.

Widnes, Lanes.—Following works, for B.C.:
(1) Renewal of spar-dashing to 52 houses or the Halebank No. 2 Estate: (2) pointing and ancillary works to 100 houses on the Kingsway Estate. This contract is divided into five sections of from 16 to 28 houses, and tenders may be submitted for all or any sections. Documents from the Housing Manager, Town Hall, Widnes. Deposit £2 2s. Tenders by April 22.

Willenhall, Staffs.—Painting of iron fences in short lengths in various parts of the district and the catwalks on the public baths roof, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Willenhall. Tenders by April 23.

Wiltshire.—List of contractors able to carry out building work (other than road and bridge works), for C.C. The list will be divided into the following classes; (a) Works up to £2,000; (b) between £2,000 and £10,000; (c) £10,000 and £25,000; (d) £25,000 and £50,000; (g) £50,000 and £250,000. Applications

for inclusion in any or all of these classes, together with names and addresses of two referees, to P. A. Selborne Stringer, clerk of the County Council, County Hall, Trowbridge, by April 15.

Woking, Surrey.—Repainting 330 houses on Barnsbury Farm estate, for U.D.C. Documents from the Engineers and Surveyor, Council Offices, Guildford Road, Woking. Deposit £2 2s. Tenders by April 11.

*Worcester.—Erection of 132 garages, for City Council. Deposit £2 2s. Tenders by April 19.

CLOTHING AND TEXTILES

*Lancashire.—Supply clothing, for C.C. Tenders by April 23.
Nottingham.—Supply of police clothing, for City Council. Documents from the Chief Constable, City Police Headquarters, Nottingham.—Tenders by April 29.
Staffordshire.—Supply of overall clothing as follows, for Potteries Water Board: 136 boiler suits; 402 bib and brace overalls and jackets. Documents from Q. V. Brown, engineer and manager and clerk, Albion Street, Hanley, Stoke-on-Trent. Tenders by April 19.
Stirling.—Supply of uniform to the Stirling, and Clackmannan Police Force, for issue during the year commencing May 16, 1960, for Joint Police Board: Jackets, trousers, shirts, collars, ties, gloves, caps, berets, breeches, police-women's jackets, skirts, shirts, collars, ties, caps, gloves and stockings, Documents from the Chief Constable, Police Headquarters, Randolphfield, Stirling. Tenders by April 7.

DEMOLITION

*Banbury, Oxon.—Demolition of slum clearance properties, for B.C. Deposit £2 2s. Tenders by April 8.

Lanarkshire.— Demolition of tenement property at Motherwell R.C. Primary School, for C.C. Written applications to D. G. Bannerman, county architect, 34 Albert Street, Motherwell, by April 2.

Lanarkshire.—Demolition of the school-house at Chryston Higher Grade School, for C.C. Written applications to D. G. Bannerman, county architect, 34 Albert Street, Motherwell, by April 2.

Lindsey.—Demolition of two cottages, old bakery and baker's shop at Coningsby, for C.C. Alternative tenders are required for: (a) The removal of the surplus materials from the buildings, excluding the brick rubble, which is to be left on site; and (b) the removal of the whole of the surplus materials from the buildings. Document, from the County Surveyor, County Offices, Lincoln. Tenders by April 5.

which is to be left on sire; and (o) the removal of the whole of the surplus materials from the buildings. Document, from the County Surveyor, County Offices, Lincoln. Tenders by April 5.

Maidenhead, Berks.—Demolition of 1-29 and 41-55 (odd numbers) and 2-44 (even numbers) Moffatt Street, and miscellaneous buildings, for B.C. Documents from the office of the Borough Engineer and Surveyor, 14 Craufurd Rise, Maidenhead. Deposit £2. Tenders by April 8.

Morley, Yorks.—Demolition and site clearance of the property known as 16, 18, 18a, and 22 Dale Road, Drighlington, for B.C. Documents from the Borough Engineer, Town Hall, Morley. Tenders by April 11.

Sheffield, Yorks.—Netherthorpe redevelopment scheme, for City Council, comprising complete demolition of approximately 80 properties, including four public houses and various shops. Documents from the Estates Surveyor, Town Hall, Sheffield, 1. Deposit £2 2s., cheques payable to City Council. Tenders by April 8.

Sheffield, Yorks.—Woodside Lane redevelopment scheme, for City Council. comprising complete demolition of approx. 150 houses and one public house. Documents from the Estates Surveyor, Town Hall, Sheffield, 1. Deposit £2 2s., cheques payable to City Council. Tenders by April 8.

Sheffield, Yorks.—Demolition of the former brewery premises situated within the site bounded by Eyre Street, Howard Street. Norfolk Lane and Charles Lane. for City Council. Documents from the Estates Surveyor, Town Hall, Sheffield, 1. Deposit £2 2s. (cheques payable to the City Council). Tenders by April 20.

ELECTRICAL

Birkenhead, Ches.— Laying earthenware conduits for telephone cables at Woodchurch estate, for B.C. Documents from Borough Architect. 3 Conway Street. Birkenhead. Deposit £1 Is. Tenders by April 6.

Downpatrick, Down.—Supply of ironmongery, electrical installation, for R.D.C.: Contract 28, Tyrella—eight houses; Raholp—12 houses; Sheepland More (Chapletown)—16 houses—type 5A; contract 29, Strangford—four houses; Ardxlass—five houses—type 7. Documents from Munce and Kennedy, architects and consulting engineers, 133 University Street, Belfast. Deposit £2 2s, each. Tenders by April 7.

Durham.—Following, for C.C.: Standard police houses, Central Drive, Middlestone Moorestate, Spennymoor: Electrical installation; standard police houses, Low Grange, Billingham—electrical installation; standard police houses, Fairfield, Stockton-on-Tees—electrical installation; Sedgefield estate (smallholdings)—repairs and improvements. Applications to County Architect, South Street, Durham, by April 6.

Luton, Beds.—Electrical rewiring 29 houses, Dordans Road and Pembroke Avenue, for B.C. Documents from Borough Architect, Town Hall, Luton. Tenders by April 8.

FENCING

Hertford.—Fencing, Hertinforbury Road estate, for B.C. The scheme consists of the erection of approx. 1,600yd, of 3ft. chain link fencing on concrete posts. Submit names to A. I. Clough, town clerk, The Castle, Hertford, in suitably endorsed envelopes, by April 9.

GAS AND WATER SUPPLY

A. I. Clough, rown clerk, The Castle, Hertford, in suitably endorsed envelopes, by April 9.

GAS AND WATER SUPPLY

Barnard Castle, Dur.—Construction of a rapid gravity filtration plant at Lartington. near Barnard Castle, for Tees Valley and Cleveland Water Board: (Contract 97) Provision, erection and setting to work of an oil-fired central heating plant of approximately 2,000,000 B.Th.U/hour capacity, together with ancillary equipment; (100) provision, erection and setting to work of an automatically operated standby diesel engine-driven alternator of approximately 310-kVA capacity. Only contractors thoroughly experienced in the design and execution of the work described above shound apply; they will be required to furnish details of installations of a similar character which they have previously carried out. Applications, in writing, not later than 10 a.m., April 5, to T. S. R. Winter, engineer, new works, etc., the Tees Vallev and Cleveland Water Board. Corporation Road, Middlesbrough. Deposit £5 5s. each (cheques payable to the Board).

*Cardigaeshire.—Mainlaying—contract 14. for South Cardiganshire Water Board. Deposit £2 2s. Tenders by May 2.

Cavan, Eire.—Supply and erection of equipment for mechancial filtration plant, capable of treating 10,000 gallons per hour, for the Butlersbridge, Ballyhaise. Redhills Regional Water Supply and Son, consulting engineers, 26 Lower Leeson Street, Dublin, or M. J. Smith, secretary, Courthouse, Cavan, Deposit £5 5s. Tenders by May 6.

Chelmsford. Essex.—Proposed water mains (phase 1) at housing site. Great Baddow, for R.D.C., comprising provision, laying and jointing of approx. 570 lin. yd. 4in. diameter asbestos-cement pressure pipes, together with all incidental works. Documents from the Engineer and Surveyor. R.D.C. Offices. New London Road, Chelmsford, Deposit £1 Is. Tenders by April 11.

*Chelmsford. Essex.—Water main, Mill Lane and Hyde Lane, Danbury, for R.D.C., comprising provision, laying and jointing of approx. 3004 of 3in. ashestos-cement pressure pipes, toget

tower, for U.D.C. Deposit £5 5s. Tenders by May 2.

Inverness-shire. — Sewage purification works at Glenmore Lodge, by Aviemore, for Forestry Commission (Scotland). Work comprises the laving of approximately 850 lin, yd. of 6in. diameter pitch fibre pipes, and for the construction of a reinforced concrete septic tank, nercolating filter with light structural steel cover, with humus tank, near Glenmore Lodge, Documents from R. H. Cuthbertson and Associates, consulting engineers. 13 Eglinton Crescent Edinburgh, 12. Deposit £5 (cheque). Tenders by April 7.

*Loughborough, Leics.—Laying of 6in., 4in., and 3in. spun-iron water mains, for B.C. Denosit £2 2s. Tenders by April 20.

*Manchester.—Supply, delivery and installation of fire hydrants and mains at Manchester Airport, for City Council. Documents from City Architect. P.O. Box 488, Town Hall. Manchester.— Laying of approximately 2.630yd. of 6in. diameter, 3.600yd. of 4in. diameter and 1.440yd. of 3in. diameter spun-iron pipes in and around the village of Harlestone, contract 444, for the Mid-Northamptonshire Water Board. Documents

from Leonard H. Brown, civil engineer, Cliftonville, Northampton. Deposit £2 2s. Tenders by April 22.

Stockport, Ches.—Contractors experienced in the laying of asbestos-cement pipelines are invited to be considered for inclusion in the list of contractors from whom tenders are to be invited for a period of 12 months, for Waterworks Committee. Application to the Engineer and Manager, Water Department, Town Hall, Stockport, by April 9.

Williton, Som.—Clatworthy water supply scheme, contract 9, for R.D.C., comprising construction of a 350.000-gallon capacity service reservoir in reinforced concrete at Woodford, Monksilver. The reservoir will consist of two parts, each 45ft. x 60ft. divided by a reinforced concrete wall, the depth of water being 10ft. 9in. The reservoir will be banked with an earthwork embankment, which, together with the roof, will be covered with soil and sown with grass seed; meter house and recording apparatus; combined overflow and scour pipe; site works; provision and fixing of all necessary valves, ironworks, manholes, etc.; ancillary works. Documents from the office of S. E. Balch, engineer and surveyor, Council Offices, Fore Street, Williton, Taunton, Somerset. Deposit £3 3s. cheque. Tenders by April 25.

*Whittlesey, Isle of Ely.—Whittlesey water contract 9, for U.D.C. Deposit £3 3s. Tenders by April 27.

HARBOURS, PIERS AND SEA DEFENCE WORKS

*Bournemouth.—Southbourne cliffs protection works, scheme 3, for B.C. Deposit £5.
Tenders by May 16.
North Shields, Northumb.—Repair and strengthening of the Tyne Commission Quay, Albert Edward Dock, for Tyne Improvement Commission. Consisting of repairing by cement gunning defective reinforced concrete and strengthening reinforced concrete crane beams by cement gunning or by the use of precast reinforced concrete haunch units. Documents from R. N. Eggleton, secretary, Tyne Improvement Commission. Bewick Street, Newcastle upon Tyne, 1. Deposit £3 3s. Tenders by April 25.

HEATING AND VENTILATING

Belfast.—Installation of new low pressure hot water heating accelerator at Hillman Primary School, Upper Meadow Street, for City Council. Documents from the Education Architect, 40 Academy Street, Belfast, 1. Tenders by April 7.

Belfast.—Renewal of existing low pressure hot water heating boiler at Carr's Glen Primary School, Oldpark Road, for City Council. Documents from the Education Architect, 40 Academy Street, Belfast, 1. Tenders by April 7.

Belfast.—Following, for City Council: (1) Heating and ventilation installations; (2) plumbing installation at new Production Engineering and Metrology College of Technology. College Occuments from the Education Architect, 40 Academy Street, Belfast, 1. Tenders by April 7.

April 7.

Cardiff.—Installation of heating and allied services in the gymnasium, Boys' High School. for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by April 13.

Clutton. Som.—Hot. water. installation.

Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by April 13.

Clutton, Som.—Hot water installations (backboilers) at 1 to 12 The Batch, Chew Magna, and 5 to 24 Bennell Cottages, Chilcompton, for R.D.C. Documents from the Housing Manager, Council Offices, Temple Cloud, Bristol. Tenders by April 20.

Draperstown, Londonderrv.—(1) Heating (low pressure hot water); (2) plumbing and (3) electrical installation for new Voluntary Primary School at Draperstown, for the Very Rev. M. Collins. Documents from M. A. Fitzpatrick, architect and surveyor. Strand Chambers. 16-18 Strand Road. Londonderry. Deposit £3 3s. (cheque) each installation. Tenders by April 11.

Enniskillen, Fermanagh.—(a) Heating installation: (b) plumbing installation: (c) electrical installation at new Voluntary Primary School for Boys, Derrin Road, Enniskillen. Documents from Varming and Mulcahy, consulting engineers, 37 Malone Road, Belfast. Deposit three guineas (cheque only) for each contract. Tenders by May 3.

Fermanagh.—Following installations: (a) Electrical: (b) low pressure hot water heating; (c) hot and cold services and sanitary at new County Intermediate School. Newtownbuffer, for Co. E.C. Documents from W. I. Ogle. consulting engineer, 63, Main Street, Bangor, Co. Down. Deposit £3 each (cheques payable to Education Committee). Tenders by May 2.

Tewkesbury, Glos.—Supply of materials and the installing of hot water systems at 42

houses owned by the Council, for B.C. Documents from the Borough Surveyor, Municipal Buildings, Oldbury Road, Tewkesbury. The contract is divided into four groups and contractors may tender for the whole or any group. Tenders by April 9.

West Riding.—Extending heating and resiting boilers with stokers at Harrogate School of Art, Belvedere, Harrogate, for C.C. Applications to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate, by April 11. Tenders by April 25.

HOUSING SCHEMES

Aberdeen.—Following works involved in the erection of 48 houses, Kincorth scheme, section 43, for City Council. Excavator, concretor, mason and brick; carpenter, joiner and ironmonger; roof tiler and rough-cast; plumber; lath and plaster; electrical; glazier and supply and installation of fireplaces. Applications in writing to the City Architect, 11 Broad Street, Aberdeen, by April 8.

Ampthill, Beds.—Following, for R.D.C.: (1) Four bungalows, Fieldside Road, Pulloxhill; (2) two bungalows, George Street, Maulden. Documents from the Engineer and Surveyor, The Limes, 12 Dunstable Street, Ampthill. Deposit £2 2s. Tenders by April 19.

Ballymena, Antrim.—Erection of 55 houses and construction of site works at Knockan Road, Broughshane, for R.D.C. Documents from Ogilby and M'Cutcheon, surveyors, 9 Upper Crescent, Belfast. Deposit £5 5s. Tenders by April 15.

*Bathavon, Som.—Six houses, Fairy Hill. Compton Dando, for R.D.C. Applications by April 9. Deposit £2 2s., cheques payable to the Council.

Cardiff.—Two pairs of houses with ancillary site works at Trap Well, Porset, Van, for R.D.C. Documents from the Engineer and Surveyor, 20 Park Place, Cardiff. Deposit £3 3s. Tenders by April 12.

Cheltenham.—Correction.—It was reported in our issue of March 17 that the B.C. were to obtain tenders for the erection of a block of flats at Charlotte House site, Winchcombe Street. The Council have in fact already selected a contractor for this project.

Cosceley, Staffs.—Following contracts, for U.D.C.: (a) Turton Road and Batmans Hill Road—44 dwellings in two and three storeys. Contractors may tender for one or both of the contractor smay tender for one or both of the contractors may tender for one or both of the contractor smay tender for one or both of the contractors may tender for one or both of the contractors may tender for one or both of the contractors may tender for one or both of the contractors may tender for one or both of the contractors may tender for one or both of the contractors may tender for one or both of the

£2 2s., cheques payable to U.D.C. Tenders by April 25.

Daventry, Northants.—Erection of the following, for R.D.C.: Two houses at Nene Side Close, Badby; 10 bungalows and four houses at Weedon Bec. Documents from H. Bonsor, surveyor, Council Offices, Church Walk. Daventry. Deposit £3 3s. Tenders by April 18.

Doncaster, Yorks.—Twenty-five unit two-storey block of aged presons' flats at Edlineton Lane, Edlington, contract 324, for R.D.C. Documents from the department of J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by April 22.

Doncaster, Yorks.—Forty-six houses at Hilltop, Edlington, contract 335, for R.D.C. Documents from the department of J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by April 20.

Fast Davenam, Norfolk,—Redwelopment of Fast Davenam, Norfolk,—Redwelopment of

Doncaster, Yorks.—Forty-six houses at Hill-top, Ediington, contract 335, for R.D.C. Documents from the department of J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by April 20.

East Dereham, Norfolk,—Redevelopment of Baxter Row, Dereham, Norfolk, for U.D.C.: (Contract 1) Four blocks of three-storey buildings, comprising 18 aged persons' flats and 18 maisonnettes, together with external services and site works; (2) eight aged persons' bungalows (in three blocks), communal room, external services with site works. Documents from Tuthill and Burton, 4b, Market Place. Dereham. Deposit £2 2s. in each case. Tenders by April 12.

Formby, Lancs.—Block of three old persons' bungalows, type R, at Sealand Close, for U.D.C. Documents from H. P. Turner, engineer and surveyor, Council Offices. Formby, near Liverpool. Tenders by April 20.

Guildford, Surrey.—Fifty-four dwellings and ancillary works at Almsgate, Compton, for R.D.C. Documents from J. W. Snape. engineer and surveyor, Millmead House, Guildford. Deposit £2 2s. per set. Tenders by May 4.

Hertford.—Construction of 20 old people's dwellings at 26-28 West Street and Ivy Passage, for B.C., comprising 16 bed-sitting room flats, enceted in two three-storey blocks. together with access road, drainage and site works. Applications to A. I. Clough, town clerk, The Castle Hertford, by April 11.

Hertford.—Fifty-nine houses in pairs and terraces and 46 maisonnettes and flats. complete with drainage and site works, at Slee Farm estate, for B.C. Contractors should submit names and state general capacity to undertake the work and giving the names and addresses of three referees to A. I. Clough, town clerk. The Castle, Hertford, by April 11.

Hillsborough, Down.—Ten houses and ancillary works at Carryduff, for R.D.C. Documents from W. B. Maxwell, architect, 5 University Terrace, Belfast, 7. Deposit £5 5s. Tenders by April 12.

Huddersfield, Yorks.—Erection of three caretakers' houses (two at Bradley Bar and one at Rawthorpe), for B.C. Documents from the Borough Architect's Office, High Street Buildings, Huddersfield, Deposit £1 1s. Tenders by April 19.

Keighley, Yorks.—Seventy-four dwellings on the Low Bank Lane Estate, Oakworth, comprising 40 one-bedroom flats and 34 three-bedroom houses, for B.C. Applications to E. G. Felgate, borough architect, College Street, Keighley, by April 6. Deposit £2.

Northumberland.—Four pairs of police houses at Low Willington Farm estate, Wallsend, for C.C. Applications to the County Architect, County Hall, Newcastle upon Tyne, 1, by April 4.

Ormskirk, Lancs.—Erection of 16 houses, for U.D.C. Documents from the office of the Surveyor, Council Offices, Burscough Street, Ormskirk, Deposit £2 2s. Tenders by April 14.

Oswestry, Salop.—Erection of the following, together with site works, for R.D.C.:

Surveyor. Council Offices, Burscough Street, Ormskirk. Deposit £2 2s. Tenders by April 14. Oswestry, Salop.—Erection of the following, together with site works, for R.D.C.: (Scheme 1) 20 houses and eight bungalows at St. Martins; (2) 28 houses and 10 bungalows at Whittington; (3) eight houses and two bungalows at Llynclys; (4) 12 houses and eight bungalows at Gobowen. (5) two bungalows at Gobowen. Documents from the Surveyor and Engineer, Council Offices, Castle View, Oswestry, after April 1. Deposit £3 3s. Tenders by April 27.

Marshland, Norfolk.—Seven bungalows at Clapper Lane, Clenchwarton, for R.D.C. Applications to the Architect, Council Offices, Alexandra Road, Wisbech, by April 2.

Morayshire.—Following works in connection with the erection of 30 houses at Sanquhar, Forres, for C.C.: Roads and pavements; excavator, mason and concrete; carpenter and joiner; glazier; roof tiler; plaster and roughcast; plumber; electric; painter. Contractors who wish to tender for the whole of the works or for individual trades are requisted to make applications to the County Architect County

cavator, mason and concrete; carpenter and joiner; glazier; roof tiler; plaster and rough-cast; plumber; electric; painter. Contractors who wish to tender for the whole of the works or for individual trades are requisted to make applications to the County Architect, County Buildings, Elgin, by April 8.

Neath, Glam.—Sixteen houses and four flats, Morfa Glas site, Glynneath, for R.D.C. Documents from the offices of the Engineer and Surveyor, 18 Orchard Street, Neath. Deposit £3 3s. Tenders by April 12.

Sidmouth, Devon.—Twenty-four flats in two three-storey blocks at Lymebourne Park, for U.D.C. Applications to Eric G. Howarth, clerk of the Council, Council Offices, Sidmouth, by April 2. Deposit £3 3s.

South Cambridgeshire.—Four one-bedroom bungalows, together with sewage disposal works and incidental works at Little Abington, for R.D.C. Documents from the Architect, County Hall, Hobson Street, Cambridge, Deposit £2 2s., cheques payable to Council. Tenders by April 12.

Southend-on-Sea, Essex. — Ninety-three two-storey dwellings of brick construction with tiled roofs and work incidental, as follows, for B.C.: 17 two-bedroom houses; 48 three-bedroom houses; 12 four-bedroom houses; 16 two-bedroom flats. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by April 7, with details of similar works previously undertaken and names of architects from whom references may be obtained.

Southwell, Notts.—Four pairs of bungalows, off Abbey Road, Edwinstowe, for R.D.C. Documents from M. England, architect and surveyor, 7 Westgate, Southwell, Notts.—Deposit £2 2s., cheques payable to R.D.C. Trenders by April 11.

Stokesley, Yorks.—Block of six aged persons' (two-storey) flats at Great Ayton Bridge, scheme 1-16, for R.D.C., comprising demolition works and site clearance, traditional substructure and superstructure works, drainage and water services. Documents from the Engineer and Surveyor, Council Offices, Stokesley. Deposit £2 2s., cheque payable to Council. Tenders by April 22.

Taunton, Som.—Five

Wandsworth.—Erection of a seven-storey block of 21 flats at Southcroft Road, for B.C.

Applications giving details of experience, plant and technical and supervisory staff available, together with names of two technical and two financial referees to J. Noel Martin, town clerk, Municipal Buildings, Wandsworth, London, S.W.18, by April 6. Plans seen at the office of J. H. Mitchell, architect, 140 Streatham Hill, London, S.W.2.

Warwick.—Following at Percy estate, central area, site A, for B.C.: Nineteen three-bedroom two-storey units; 12 one-storey bedsitting-room units; live one-storey one-bedroom units; laundry block, access road and nine brick garages. Documents from Hector Seton Brown, borough engineer and surveyor, 23 Jury Street, Warwick. Deposit £2 2s. Tenders by April 15.

*West Kesteven, Lincs.—Traditional bungalows, for R.D.C. Deposit £2 2s. Tenders by April 29.

Worcester. — Eighteen dwellings, St. Cathoring's Valenders of Cathoring's Valenders of Sciences.

April 29.

Worcester. — Eighteen dwellings, St. Catherine's Vale redevelopment area, for City Council, comprising one pair of houses, type W.6, and two blocks of four two-storey flats, type W.10, with link staircase in traditional construction, together with external services on a redevelopment site. Documents from City Engineer and Surveyor, 22 Bridge Street, Worcester. Deposit £3 3s., cheques payable to Worcester Corporation. Tenders by April 19. Worcester. De to Worcester April 19.

MATERIALS AND SUPPLIES

MATERIALS AND SUPPLIES

Abercare, Mon.—Supply of the following, for the year ending March 31, 1961, for U.D.C.: (1) Sanitary ware and plumbers' requisites; (2) ironmongery and cement; (3) tools; (4) timber; (5) glass and putty; (6) salt glazed ware pipes; (7) bituminous macadam; (8) dry store aggregate: (9) surface dressing of approximately 26,000 sq. yd. with hot tar and granite chipings; (10) the mechanical laying of approximately—(a) 2,400 sq. yd. of two-course and (b) 13,600 sq. yd. of single-course work of bituminous macadam; (11) heat and plane approximately 4,250 sq. yd. of carriage-way. Documents from the Surveyor to the Council, Council Offices, Abercarn. Tenders by April 11.

Bangor, Down.—Supply of ironmongery for the new voluntary intermediate school, Ballymaconnell Road, now in course of erection, for The Trustees. Documents from D. W. Boyd and Co., architects, 43 Scottish Provident Buildings, Belfast, 1. Deposit £3 3s. cheque. Tenders by April 6.

Belfast.—Supply of approximately 5,000 traffic marking studs, viz., 1,000 steel and 4,000 aluminium, for City Council. Documents from the City Surveyor's Department, Room 84, City Hall, Belfast, 1. Tenders by April 6.

Birmingham.—Minworth new works—supply and delivery over the next 12 months of

ments from the City Surveyor's Department, Room 84, City Hall, Belfast, 1. Tenders by April 6.

Birmingham.—Minworth new works—supply and delivery over the next 12 months of up to 1,000 tons of Portland cement, for Birmingham and Rea District Drainage Board. Orders would be placed in bulk, as required to suit the Board's construction programme. Documents from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24.

Deposit £2 2s. Tenders by April 11.

Birmingham.—Supply of the following special type dustbins for use with the new refuse collection system now in operation, for City Council: Up to 30,000—2.5 cu ft. capacity; up to 1,000—3.2 cu. ft. capacity. Documents from the General Manager, Salvage Department, Civic Centre, Birmingham, I. Tenders by April 14.

Church, Lancs.—Supply of the following, for U.D.C.: (a) Precast concrete flags; (b) precast concrete edging and kerbs; (c) glazed earthenware pipes, etc.; (d) screened chippings; (e) tarmacadam and bituminous macadam; (f) broken stone; (g) sand; (h) cement; (i) bitumen road emulsion; (j) patching of disturbed rolled asphalt surfaces.

Documents, on receipt of foolscap stamped, self-addressed envelope, to the Engineer and Surveyor, Council Offices, Blackburn Road, Church. Tenders by April 11.

Cornwall.—Supply to Looemills, about one mile west of Liskeard, of approximately 8,000

the Engineer and Surveyor, Council Offices, Blackburn Road, Church. Tenders by April 11.

Cornwall.—Supply to Looemills, about one mile west of Liskeard, of approximately 8,000 tons of good, sound, hard material suitable for forming embankments, for C.C. Documents from the County Surveyor, County Hall, Truro. Tenders by April 11.

Glasgow.—Supply of the following as may be required for one year from June 1, 1960, for Water Department: Bricks; castings (spiggot and socket); castings (valve cases, etc.); cement; cotton waste; hammer shafts; India rubber joints; iron and steel; ironmongery; restoration of footpaths and streets; ropes and twines; stopcocks and ferrules; valves. Documents from the Chief Engineer and General Manager, Water Department, 50 John Street, Glasgow, C.1. Tenders by April 16.

Midlothian.—Supply of steel pipes generally as in B.S. 534/1934 as follows: 21in. diameter 484ft., and 18in. diameter 1,512ft., with ancillary fittings, for C.C. Documents from the County Engineer, 32 Palmerston Place, Edinburgh, 12.

Perth.—Supply of the following for the year commencing May 16, 1960, for B.C.: Granite chippings; metal castings for drainage; sand and gravel; lime; cement; bricks; roadstone and macadam; fireclay pipes and fittings; hydraulically pressed concrete kerb and paving flags. Documents from the Burgh Surveyor's Office, 16 Tay Street, Perth. Tenders by April 6

April 6.

Ulster.—Following for the 12 months commencing June 1, 1960, for Transport Authority (Contract 48) Burning, cleaning and Vaporising oils (49) lubricating oils and greases; (50) petrol, diesel (derv), gas diesel fuel oil—for use in rail cars and other non-dutiable purposes. Documents from the Stores Superintendent, Duncrue Street, Belfast, 3, at a charge of 1s. for each form. Tenders by April 8. April 6. Ulster.-

PLANT AND MECHANICAL TRANSPORT

Bingham, Notts.—Supply and delivery of the following, for R.D.C.: 25 cu. yd. rearloading dual tip Senior refuse collection vehicle, mounted on a Karrier Loadmaster diesel engine chassis incorporating a double crew cab with salvage rack over with access ladder and fitted with rear riding step, loading board, spare wheel and to be painted and lettered to the requirements of the Council; 10 cu. yd. side-loading Karrier C.K.3 refuse collecting vehicle chassis 64A/5010 is to be taken in part exchange and the allowance stated in the tender. Any further information required can be obtained from the public health inspector and cleansing superintendent, T. Allwood, Council Offices, Bingham. Detailed specification and description of the vehicle must accompany each tender, and these shall be delivered in a plain sealed envelope, endorsed "Refuse Collection Vehicle." to W. B. Birch, clerk to the Council, Council Offices, Bingham, Nottingham, by first post, April 7.

*Birmingham.—Supply of an excavator, for Birmingham.—Supply of an excavator, for Birmingham.—Supply of an excavator, for Birmingham.—Supply of one 16/24 Eagle Compressmore Paladin refuse vehicle and 100 Paladin containers, for B.C. Documents from Borough Engineer, Town Hall, Bournemouth. Tenders by April 7.

*Breconshire.—Following, for C.C.: (a) Four 7-ton Bedford diesel short wheel base tipping lorries;; (b) two l5cwt. Bedford vans; (c) one Land-Rover; (d) two Massey-Ferguson 702 tractor, complete with Shawnee special industrial loading equipment; (e) two Massey-Ferguson 736 mid-mounted Dynabalance mowers; (f) one Massey-Ferguson 786 mid-mounted Dynabalance mowers; (f) one Massey-Ferguson 792 tractor, complete with 702 loading equipment and 710 digger; (g) two Benford 5/34 concrete mixers; (b) two light (70/80 c.f.m.) mobile compressors with equipment; (i) two portable power-operated road breakers; (j) one Twose Somerset verge trimmer; (k) six lightweight aluminium tilts or lorry shelters; (l) one Somerset verge trimmer; (k) six lightweight aluminium tilts or

Surveyor, Council Offices, Irlingborough. Tenders by April 12.

*Keighley, Yorks.—Road roller, for B.C. Tenders by April 18.

Lindsey.—Supply of the following vehicles and plant, for C.C.: (a) Three diesel Fordson tractors fitted with hydraulic loaders; (b) one diesel Ferguson 35 tractor or similar with hydraulic loader, cab, trailer and mower; (c) two Atkinson trailer gritters; (d) one Atkinson gritter body; (e) one 15cwt. mobile crane; (f) one Albion Chieftain low loader tractor chassis and cab; (g) three Albion Chieftain

7-ton tipping lorries; (h) four diesel 5-ton lorries, forward control. Documents for each or any number of items from County Surveyor, County Offices, Lincoln. Tenders by

*Southend-on-Sea, Essex.—Supply of hand and motor mowers, for B.C. Tenders by April 13.

southen-orders, for B.C. Tenders by April 13.

Staffordshire.—Birmingham-Preston motorway — Staffordshire contract, section A (Stafford By-pass), for C.C., comprising construction of seven miles of motorway and two-thirds of a mile of dual carriageway link road, the work consists of drainage, excavation, construction of twin 36ft. carriageways and hardshoulders, including 27 concrete bridges of various types. Applications to T. H. Evans, clerk of the County Council, County Buildings, Stafford. Deposit £50. Tenders by May 5.

Truro, Corn.—Supply of one 12/18 cu yd. Gibson Pendulum compressor body on a Karrier Gamecock chassis with 9ft. 7in. wheelbase, forward control three-seater cab, and diesel engine, the vehicle to be painted and lettered to requirements and delivered to Truro, for R.D.C. On delivery of this vehicle the Council will have for sale a 1950 Dennis side-loading refuse collector, 10 cu, yd. and tenders are also invited for this vehicle. Tenders in sealed envelopes marked "Refuse Collector" to R. W. Barratt, clerk of the Council Rural Council Hall, River Street, Truro, by April 9.

PLAYING FIELDS. PARKS. ETC.

PLAYING FIELDS, PARKS, ETC.

Arnold, Notts.—Construction of three non-attention type tennis courts at the King George V playing field, for U.D.C. Docu-ments from the Surveyor, Council Offices, Arnot Hill Park, Arnold. Deposit £2 2s. Tenders by April 18.

Bath, Som.—Supply and delivery of 1,600 cu. yd. top soil to the Victoria Brick and Tile site, for City Council. Documents from the Parks Superintenent, 9 North Parade Buildings, Bath. Tenders by April 9.

Bolton, Lancs.—Construction of playing fields at Parkfield Road, comprising regrading and seeding of approx. 8,600 sq yd., sub-soil drainage, etc., for B.C. Documents from Borough Engineer, Town Hall, Bolton. Tenders by April 11.

drainage, etc., for B.C. Documents from Borough Engineer, Town Hall, Bolton. Tenders by April 11.

Coleraine, Londonderry. — Provision of four hard-surface tennis courts and a small shelter at Loreto Convent Grammar School. Applications, in writing, to M. B. Mullan, chartered architect, 55 Ponsonby Avenue, Belfast, 15. Tenders by April 14.

East Riding.—Development of playing fields at the proposed Howden County Secondary School, for C.C. Applications to the County Architect, County Hall, Beverley, by April 12. Deposit £2 (cheques payable to the County Treasurer).

Middleton, Lanes.—Construction of a playing field of approximately 5½ acres in area on the Hollin estate, for B.C. Works comprise soil stripping, excavation and levelling, subsoil cultivation, replacement of topsoil, drainage works, topsoil cultivation, seed bed preparation, sowing and fencing. Documents from the Borough Surveyor, Town Hall. Middleton. Deposit £2 2s. Tenders by April 9.

*Wakefield, Yorks.—Laving out of playing

April 9.

*Wakefield, Yorks.—Laying out of playing fields, Horbury Road, for City Council. Tenders by May 4.

RIVER AND FLOOD PREVENTION WORKS

Bristol. — Civil engineering works at Frenchay Mill, Frenchay, near Bristol (con-tract 193), for Bristol Avon River Board. Works comprise the construction of a concrete trapezoidal gauging flume 102ft. long, together with a recorder house, concrete flood retaining walls and miscellaneous drainage works. Documents from F. Greenhalgh, engineer to the Board, 18 Bennett Street, Bath. Tenders by April 14

by April 14.

*Buckinghamshire.—Dredging of the River Ouse, between Stony Stratford and Wolverton, for Great Ouse River Board. Deposit £5 5s. Tenders by April 22.

Chippenham. Wilts.—Contract 195, for Bristol Avon River Board. Tenders by April 21.

ROADS, BRIDGES AND SITE WORKS

*Banstead, Surrey.—Making-up Chapel Way d St. Mark's Road, for U.D.C. Tenders by

and St. Mark's Road, for U.D.C. Tenders by April 22.

*Banstead, Surrey.—Making-up Hillside and Tudor Close, for U.D.C. Deposit £2 2s. Tenders by April 22.

Batley, Yorks.—Site preparation and the construction of roads and sewers, involving approximately 3,700 cu. yd. of excavation, 1,620 sq. yd. of carriageway and 100 lin. yd. of 6in. to 9in. sewers, Howden Clough housing site, for B.C. Documents from the Borough Engineer, West House, Hanover Street, Batley. Tenders by April 20.

*Berkshire.—Making-up Woodlands Rise, Sunninghill, for C.C. Deposit £2. Tenders by April 8. *Bournemouth.—Road works at West Howe estate, for B.C. Deposit £1 ls. Tenders by April 13.

April 13.

*Bridgwater, Som.—Road, sewers and water mains, contract three, for B.C. Deposit £2 2s. Tenders by April 12.

Brighouse, Yorks.—Making-up of Lister Street, for B.C. Documents from H. A. Sneezum, borough engineer, Commercial Street, Brighouse. Deposit £1. Tenders by April 20. Street, Brig April 20. *Bristol.-

April 20.

*Bristol.—Preparation of housing site, The Rock, Bristlington, for City Council. Tenders by April 22.

*Canterbury, Kent.—Construction of roads and sewers in the making-up of St. Augustine's Road, for City Council. Tenders by April 9.

*Cardiff—Size According

tine's Road, for City Council. Tenders by April 9.

*Cardiff.—Site completion works, for City Council. Deposit £5 5s. Tenders by April 22.

Cheadle and Gatley, Ches.—Making-up of the following, for U.D.C.: Marrick Avenue (part), Gatley; Waldon Avenue, Cheadle: Brandon Avenue (part), Heald Green: and Nursery Road (part), Cheadle Hulme. Documents from Duncan S. Graham, engineer and surveyor, Town Hall, Abney, Cheadle. Deposit £2 2s. Tenders by April 23.

Chesham, Bucks.—Extension and improvement of caravan site, Trapps Lane, for U.D.C. The work consists of the following: (1) Construction of a new ablutions building; (2) approx. 385yd. of concrete carriageway; (3) construction of 46 caravan standings, complete with footpaths, fencing and electrical points, etc.; (4) laying of approx. 86yd. of 3in. castiron water main; and (5) street lighting, asc car park and children's playground, etc. Documents from the Engineer and Surveyor, Council Offices, Chesham. Tenders by April 22.

*Chisleburst and Sidcup. Kent.—Roads and

Council Offices, Chesham. Tenders by April 22.

*Chislehurst and Sidcup, Kent.—Roads and sewers, Northcote Road housing site, for U.D.C. Deposit £2 2s. Tenders by April 9.

Christchurch, Hants.— Surface dressing approx. 32,000 sq. yd. of carriageways, for B.C. Documents from the Borough Engineer, Town Hall, Christchurch. Tenders by April 6.

Cornwall.—Supply to Looe Mills, about one mile west of Liskeard, of approx. 8,000 tons of good, sound, hard material, suitable for forming embankment, for C.C. Documents from the County Surveyor, County Hall, Truro. Tenders by April 11.

Coulsdon and Purley, Surrey.—Private street improvement works at Ewhurst Avenue (remainder of), Sanderstead, for U.D.C. Documents from H. M. Collins, Council Offices, Purley. Deposit £3 3s. Tenders by April 6.

fremainder of), Sanderstead, for U.D.C. Documents from H. M. Collins, Council Offices, Purley. Deposit £3 3s. Tenders by April 6.

Cumbernauld, Lanarks.—Kildrum Ring Road civil engineering contract £37, for Development Corporation, comprising the construction of 3,000 lin. yd. of main road, together with surface drainage and other ancillary works, including five Armco corrugated metal underpasses with reinforced concrete retaining walls. Applications to the Chief Architect and Planning Officer, Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld, Glasgow, by April 4.

*Denbighshire.—Widening and realignment of the Ruthin-Denbigh Road, A.525, for C.C. Deposit £2 2s. Tenders by April 18.

Dublin, Eire.—Construction of Corballis diversion road at Dublin Airport, for Ministry of Transport and Power, including the construction of about 900 lin, yd. of 22ft, wide carriageway of bituminous macadam on lean concrete base course, excavation, drains, etc. Documents from Room 503 Department of Transport and Power, Kildare Street, Dublin. Deposit £5. Tenders by April 13.

*Dundee.—Boring and soil testing, and analysis at two bridge sites, for City Council. Tenders by April 13.

Esher. Surrey.—Laying approx. 5,700 sq. yd. of clinker and ash roadways and hardstandings on four allotment estates, contract 301, for U.D.C. Documents from Engineer and Surveyor, Council Offices, High Street, Esher. Deposit £1 ls. Tenders by April 12.

*Edmonton, Middx.—Resurfacing of county and district roads, for B.C. Deposit £2 2s. Tenders by April 8.

Exeter.—Following works, for City Council: (1) Reinstatement of bitumen macadam paving to footways; (2) reinstatement of flagged footways; (3) reinstatement of mastic asphalt carriageways and footways from firms having previous experience in this class of work, for City Council. Documents from John Brierley, city engineer and surveyor, Municipal Offices, 7 Southernhay West, Exeter. Tenders by April 11.

Southernhay April 11.

*Finchley.—Re-laying artificial stone paving, for B.C. Deposit £2. Tenders by April 25.

*Finchley.—Making-up Denison Close, for B.C. Deposit £2. Tenders by April 25.

"Gloucestershire.—(Contract 1) Filton bypass substitute and (2) Ableton Lane diversion, for C.C. Deposit £50. Tenders by April 27.

Guildford, Surrey. — Construction of footpaths and ancillary works at Surrey Border, Ash, for R.D.C. Documents from A. Owen Essex, housing and valuation officer, Millmead House, Guildford. Deposit £2 2s. Tenders by April 12.

Halifax, Yorks.—Making-up of part of Sandhall Lane, including carriageway, footway and drainage works, for B.C. Documents, from the Borough Engineer, Crossley Street Halifax. Deposit £1 (cheques payable to Halifax Corporation). Tenders by April 8.

Haltemprice, Yorks.—Construction of approximately 540 sq. yd of tarmac roadway and laying of approximately 90yd. of sewer at Manor House Industrial Estate, Anlaby, for U.D.C. Documents from the Engineer and Surveyor, Anlaby House, Anlaby Deposit £1. Tenders by April 11.

*Hartlepool, Dur.—Making-up of Lowdale

April 11.

*Hartlepool, Dur.—Making-up of Lowdale
Lane, for B.C. Deposit £2. Tenders by

payable to the Treasurer. Tenders by April 11.

*Hartlepool, Dur.—Making-up of Lowdale Lane, for B.C. Deposit £2. Tenders by April 25.

*Hereford.—Construction of roads and sewers at Newton Farm estate, section 5, for City Council. Deposit £2 2s. Tenders by April 21.

*Keynsham, Som.—Surface dressing, 1960, for U.D.C. Tenders by April 14.

Lancashire.—Following, for C.C.: Supply and erection of the steelwork in two footbridges to be constructed alongside (a) Red Lion Canal Bridge, Maghull, and (b) Garstang Road Canal Bridge, Garstang. The footbridges will consist of two universal beams with British standard angle bracings. Total weight of steelwork is approximately 14 tons. Documents from the County Surveyor and Bridgemaster, P.O. Box 9, Preston. Tenders by April 11.

Manchester.—Constructing 52,500 sq. yd. bitumen macadam carriageway, 9,200 lin. yd. 9in. to 33in. dia. sewer, and all ancillary works, Heywood overspill site, for City Council. Documents from the City Surveyor, (Room 208), Town Hall, Manchester, 2. Tenders by April 19.

Manchester.—Design, supply and erection of a 30ft. span steel footbridge, together with supporting trestle, stairway, intermediate trestle and precast concrete decking, at Watson Street goods depot car park, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by April 6.

Manchester.—Design, supply and erection of a 30ft.-span steel footbridge, together with supporting trestle, stairway, intermediate trestle and precast concrete decking, at Carpark, Watson Street goods depot, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by April 6.

Manchester.—Design, supply and erection of a 30ft.-span steel footbridge, together with supporting trestle, stairway, intermediate trestle and precast concrete decking, at Carpark, Watson Street goods depot, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by April 6.

supporting trestic, statiway, filectimate trestle and precast concrete decking, at car park, Watson Street goods depot, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by April 6.

"Maple, Ches.—Footpath and carriageway improvement works, for U.D.C. Deposit £2. Tenders by April 9.

Merionethshire.—Construction of a new three-span skew bridge to carry the trunk road over the Afon Dwyryd at Maentwrog, for C.C. Work includes the construction of concrete abutments and piers, partly masonry faced, together with wing and training walls in masonry with a concrete slab deck carried by cased steel joists and tee beam construction. The skew span is 126ft, approximately, and the contract also includes for approach road works of 600ft. Foundation work also includes the driving of 113 tons of steel sheet piling. Documents from the County Surveyor, County Offices, Penarlag, Dolgellan. Deposit £10 10s. Copies of plans, bridge drawings and details may be obtained on payment of a further £5 5s., which will be refunded on return of the drawings. Tenders by April 14.

"Middleen, Lancs.—Asphalt sand carpet surfacing, for B.C. Deposit £2 2s. Tenders by April 14.

Morecambe and Heysham, Lancs.—Surfacing with \$\frac{1}{4}\$in. hot rolled asphalt of approx. 16,000 sq. yd. of carriageway, together with ancillary works, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall. Morecambe and Heysham, Lancs.—Heating and planing of approx. 18,000 sq. yd. of carriageway, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall. Morecambe and Heysham, Lancs.—Heating and planing of approx. 18,000 sq. yd. of carriageway, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall. Morecambe and Heysham, Lencs.—Extension of Brunel Road, for U.D.C. Deposit £2 2s. cheques payable to U.D.C. Tenders by April 6.

"Newton Abbot, Devon.—Extension of Brunel Road, for U.D.C. Deposit £2 2s. cheques payable to U.D.C. Tenders by April 9.

*Plymouth.—Making-up Glenholt Road and

Holtwood Road, for City Council. Deposit £2 2s. Tenders by April 18.

*Pontypool, Mon.—Laying roads and sewers at Penpelleni housing site, for R.D.C. Deposit £3 3s. Tenders by May 1.

*Pontypool, Mon.—Laying roads and sewers at Penpelleni housing site, for R.D.C. Deposit £3 3s. Tenders by May 1.

Redcar, Yorks.—Construction of approx. 4,300 sq. yd. of flexible carriageway, including kerbing, channelling and gullies, together with approx. 670 lin. yd. of 9in. dia. sewer and ancillary works, for B.C. Documents from the Borough Engineer, Municipal Buildings, Redcar. Deposit £2 2s. Tenders by April 22.

Redditch. Worcs.—Surface dressing of upprox. 140,000 sq. yd. of carriageways, for U.D.C. Documents from the Engineer and Surveyor, Council House, Redditch. Tenders by April 22.

*Romford, Essex.—Resurfacing—Broxhill Road, Havering, for B.C. Deposit £2 2s. Tenders by April 11.

*Royston, Herts.—Private streets and other roadworks, for U.D.C. Deposit £2 2s. Tenders by April 22.

*Stoke-on-Trent, Staffs.—Making-up various streets, for City Council. Deposit £3 etch. Tenders by April 13.

Swansea. — Repairs to a metal arch pipe bridge which carries the Cray water mains over the River Tawe at Gurnos, Ystradgynlais, for B.C. The works consist of the supply and fitting of new flanges, pipe slings with new and additional braces, site riveting and painting of the bridge and water mains. Documents from the Borough Water Engineer and Manager, The Guildhall, Swansea. Tenders by April 30.

Tenterden, Kent.—Construction of a service road and surface water sewer at Oaks Road

mems from the Borough water langueer and manager, The Guildhall, Swansea. Tenders by April 30.

Tenterden, Kent.—Construction of a service road and surface water sewer at Oaks Road housing estate, for B.C. Documents from H. G. Hunt, architect, Dallas Cottage, Salts Lane, Loose, near Maidstone. Deposit £2 2s. Tenders by April 11.

Twickenham, Middx.—Making-up of Conway Road, Hounslow, for B.C., comprising the construction of a carriageway (approx. 3,000 sq. yd.), footways, verges, kerbing, and approx. 1,000 lin. yd. of sewers. Documents from A. S. Knolles, Borough Engineer, Municipal Offices, Twickenham. Deposit £2 2s. Tenders by April 12.

*Wakefield, Yorks.—Private street works, contract 21, for City Council. Tenders by May 4.

*Wakefield, Yorks.—Private street works, contract 21, for City Council. Tenders by May 4.

*Westmorland.—Erection of structural steelwork for new bridge, Kirkby Stephen, for C.C. Deposit £5. Tenders by April 21.

West Riding.—Resurfacing entrance to fuel compound at Doctor Lane C.E. School, for C.C. Documents from A. Beardsall, 35 Kirkgate, Huddersfield. Tenders by April 16.

Willenhall, Staffs.—Surface dressing of approx. 98,700 sq. yd. of carriageway, 1960/61, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Willenhall. Tenders by April 14.

Willenhall, Staffs.—Surfacing of approx. 7,000 sq. yd. of concrete carriageway and approx. 800 sq. yd. of concrete carriageway and approx. 800 sq. yd. of tarmacadam carriageway with lin. of fine cold asphalt, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Willenhall. Tenders by April 14.

Wilmslow, Ches.—Making-up of Woodlands Road, for U.D.C., the works comprising approximately 330 lin. yd. of kerb and channel, 330 super. yd. of shaping-up and surfacing to carriageway, footway and appurtenant works. Documents from the office of A. J. Riley, engineer and surveyor, Council Offices, Green Hall, Wilmslow. Deposit £2 2s. (cheque). Tenders by April 19.

Wolverhampton.—Construction of roads and footways, Grove Street, Heath Town, for B.C., comprising 2,100 sq. yd. of bituminous macadam carriageway on a wetmix foundation, together with necessary excavation, 500 lin. yd. of precast concrete kerbing, and 880 sq. yd. of precast concrete ing, and 880 sq. paving to footw office of the Bot Wolverhampton. by April 5.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

DISPOSAL

Aethwy, Anglesey.—Construction of 7,350 cu. yd. of sewer, 6in., 9in., 12in. and 18in. dia., and for a sewage purification works, comprising sedimentation tanks, filters, humus tank, stormwater tank, sludge drying beds and pumping station for Gaerwen, contract four, for R.D.C. Six weeks will be allowed for tendering from dispatch of documents, which will be available early in April. Applications, together with brief description of similar work carried out, and the names of at least three negineers to whom reference can be made, to Rofe and Raffety, consulting engineers, 9 Brewer's Green, Buckingham Gate, London, S.W.I. by April 8. Deposit £5 5s. cheque. Drawings will be available for inspection, by appointment, at the Council Offices, Llanfairpwll, and the Office of the Consulting Engineers from April 2.

Ashbourne, Derbys. — Kniveton sewerage and sewage disposal, for R.D.C., comprising construction of approximately 1,710yd. of 6in. diameter sewers, together with manholes and a small sewage disposal works, comprising settlement tanks, circular bacterial filter bed, humus tank, storm water tank, sludge drying beds, site pumping station and other appurtenant works. Documents from the offices of Elliott and Brown, chartered civil engineers, Stanley House, Pelham Road, Nottingham, Deposit £5 5s. (cheques payable to R.D.C.). Tenders by April 21.

Ashton-under-Lyne, Lancs.—Construction of a stormwater overflow manhole on the main outfall sewer, for B.C. Documents from the Borough Engineer, Municipal Offices, Ashton-under-Lyne. Deposit £5 5s. Tenders by April 19.

*Aylesbury.—Buckingham Road area, drainage, for B.C. Deposit £2 2s. Tenders by April 21.

*Bagshot, Surrey.—Construction of sewage pumping station, New Road, Windlesham, for R.D.C. Deposit £2 2s. Tenders by April 18.

Biddulph, Staffs.—Construction of Biddulph Moor sewerage scheme, for U.D.C., consisting of approx. 6,750 lin. yd. of 6in. and 9in. dia. sewers, together with approx. 90 precast concrete manholes and ancillary works. Documents from the Surveyor and Water Engineer, Council Offices, Biddulph. Deposit £3 3s. Tenders by April 18.

Bradford, Yorks.—Supply and delivery of cotton or approved synthetic fibre double-filter press cloths at the Esholt sewage disposal works, for City Council. Documents from the office of the Sewage Works Engineer. Esholt Hall, near Shipley. Tenders by April 6.

*Bridlington, Yorks.—Hunmanby sewerage and sewage disposal, for R.D.C. Deposit £5 5s.

posal works, for City Council. Documents from the office of the Sewage Works Engineer, Esholt Hall, near Shipley. Tenders by April 6.

*Bridlington, Yorks.—Hunmanby sewerage and sewage disposal, for R.D.C. Deposit £5 5s. Tenders by April 22.

*Chester-le-Street, Dur.—(1) Birtley outfall sewerage; (2) Rowletch Burn immprovement, for R.D.C. Apply by April 14. Deposit £5.

*Cuckfield, Sussex.—Worth Village sewerage scheme, contract 145, for R.D.C. Deposit £2 2s. Tenders by May 2.

Cwmbran, Mon.—Culverting of Cwmnand Brook (third section) at Orchard Place, for U.D.C. Work includes 15 lin. yd. of precast concrete box culvert under existing road, 107 lin. yd. of twin 24in, diameter piped culvert, and ancillary works. Documents from the Surveyor, Council Offices, Cwmbran. Deposit £3 3s. Tenders by April 11.

Devizes, Wilts.—Sewerage and sewage disposal, stage two, for R.D.C., comprising the construction of about 6,400 lin. yd. of 9in. and 6in. sewers and extension to Woodbridge sewage disposal works at West Lavington. Documents from Harvey McGill and Hayes, consulting engineers, 38 Market Place, Chippingham, Wilts. Deposit £5, cheque payable to R.D.C. Tenders by April 23.

Gelligaer, Glam.—Trelewis outfall sewer, which comprises the provision and laying of approximately 320yd. of sewer of various sizes between 6in. and 21in. internal diameter, a storm overflow chamber, manholes and incidental works, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Hengoed, Glam. Deposit £3 3s. Tenders by April 14.

Havant and Waterloo, Hants.—Foul sewer—proposed old people's flats, Forest End,

Hengoed, Glam. Deposit £3 3s. Tenders by April 14.

Havant and Waterloo, Hants.—Foul sewer—proposed old people's flats, Forest End, Waterlooville, for U.D.C., comprising the construction of approx. 278 lin. yd. of 6in. dia. glazed stoneware foul sewer, 285 lin. yd. of 9in. dia. glazed stoneware foul sewer, manholes and other appurtenant works. Documents from the office of the Engineer and Surveyor. 1 Park Road North, Havant Tenders by April 12.

*Hertfordshire.—Hill End relief sewer, contract S.11, for West Hertfordshire main drainage authority. Deposit £3. Tenders by April 20.

Holderness, Yorks.—Construction of

*Hertfordshire.—Hill End relief sewer, contract S.11, for West Hertfordshire main drainage authority. Deposit £3. Tenders by April 20.

Holderness, Yorks.—Construction of a motor room, alterations to the pumping station sub-structure, and ancillary works at Paull, for R.D.C. Applications to John Dossor and Associates, consulting engineers, Monk Bar Chambers, York. Deposit £2 2s., cheque payable to R.D.C. Tenders by April 19.

*Isle of Axholme, Yorks.—Haxey sewerage scheme, contracts 1 and 2, for R.D.C. Deposit £3 3s. Tenders by April 28.

*Keighley, Yorks.—Construction of sewer at Laycock, for B.C. Deposit £2. Tenders by April 7.

Kidderminster, Worcs.—North Western Drainage scheme, construction in open cut—850 lin. yd. of 30in. to 48in. o.g. concrete pipes; (b) construction in open cut—850 lin. yd. of 30in. to 48in. o.g. concrete pipes; 1,610 lin. yd. of 9in. to 15in. s. and s. concrete pipes; (c) manholes, gullies and gulley connections, and other ancillary works. Documents from the office of the Borough Engineer and Surveyor, 110 Mill

Street, Kidderminster. Deposit £4. Tenders by April 25.

Leyburn, Lancs. — Works of sewerage and sewage disposal for the village of Prestonunder-Scar, for R.D.C., comprising the laying of 2,200 lin. yd. of 6in. and 4in. glazeware pipes, together with the construction of manholes and sewage disposal works. Documents from W. K. Rodwell, consulting engineer, 40 North Street, Wetherby. Deposit £2 2s. Tenders by May 2.

*Middlesex.—East Middlesex main drainage. contract EMD.7, for C.C. Deposit £10 10s. Tenders by May 23.

*Newmarket, Suffolk.—Burwell sewerage scheme, contract 2, pumping plant, for R.D.C. Deposit £3 3s. Tenders by April 25.

Queensbury and Shelf, Yorks.—Construction of approximately 86yd. of 9in. diameter sewer at Shibden Head Lane, Queensbury, for U.D.C. Documents from J. F. Hall, engineer and surveyor, Council Offices, Queensbury, Bradford. Deposit £1 1s. Tenders by April 13.

Roxburghshire.—Newcastleton drainage scheme for C.C. compressions and singless and selection and selection of the selection

U.D.C. Documents from J. F. Hall, engineer and surveyor, Council Offices, Queensbury, Bradford. Deposit £1 1s. Tenders by April 13.

Roxburghshire. — Newcastleton drainage scheme, for C.C., comprising repairing existing sewers, comprising relaying of sections, building new manholes, including two overflow manholes and ancillary works. Applications to Crouch and Hogg, 18 Woodside Crescent, Glasgow, by April 8.

St. Austell, Corn. — Enlargement and part reconstruction of the existing sewage disposal works at St. Dennis, together with the construction of the Trerice sewer extension, for R.D.C., comprising the construction of screening tanks, storm tanks, filter bed, humus tanks, sludge beds, site pump.n. station, ejector station and access road; the enlargement of existing settling tanks and filter beds; 200 lin, yd. of 6in, diameter salt-glazed stoneware sewers; 250 lin, yd. of 4in. diameter asbestos-cement rising main. Documents from the Surveyor, Trevarna, 12 Carlyon Road, St. Austell. Deposit £5 5s. Tenders by April 26.

Saltash, Corn.—Extension of a main sewer at Ball Park, St. Stephens Road, totalling 190yd. in length, of 9in. and 6in. diameter stoneware pipes, for B.C. Documents from the borough surveyor, A. de Barr, Church House, Saltash. Deposit £2 2s. (cheque). Tenders by April 28.

Stafford. — Little Haywood, Colwich and Bishton sewerage and sewage disposal, for R.D.C., comprising construction of approximately 5,080yd. of 6in., 9in. and 12in. diameter sewers, together with manholes 4,440yd. of rising mains, together with two pumping stations and extensions to the existing sewage disposal works at Hixon, comprising settlement tank, circular bacterial filter bed, humus tank, and other appurtenant works. Documents from Gilbert Thomson and Son, civil engineers, Stanley House, Pelham Road, Nottingham. Deposit £5 5s. (cheques payable to R.D.C.). Tenders by April 28.

Stranraer, Wigtown.—Construction of 24in. diameter and 9in. diameter outfall sewers and other relative works, for B.C. Documents from Gilbert Th

point out the proposed works. Tenders by April 15.

*Tenterden, Kent.—Main drainage of Rolvenden Hill bungalows, T30/6, contract 1, for R.D.C. Deposit £3 3s. Tenders by April 20.

Thorney, Cambs.—Laying in of new foul sewers, water mains, etc., to certain properties on the north side of A.47, for R.D.C. The following are involved: Approximately 25yd. run 6in. foul sewer; approximately 20yd. run 7in. foul sewer; approximately 20yd. run 7in. foul sewer; approximately 20yd. run 4in. house connections; approximately 440yd. run 3in. water main; also the installation of 32 w.c. suites with water services and other incidental works. Applications to Ruddle and Wilkinson, architects Long Causeway Chambers, Peterborough.

West Penwith, Corn.—Sennen sewerage scheme, contract 3, for R.D.C., comprising construction of some 310 lin. yd. of 6in. diameter salt glazed ware sewers and three manholes in the parish of Sennen, Cornwall. Documents from G. H. Ivory and Partners, consulting engineers, 24 Athenaeum Street, Plymouth. Deposit £2 2s. Tenders by April 14.

Wirral, Ches.—Following, for U.D.C.: Provi-

Plymouth. Deposit £2 2s. Tenders by April 14.

Wiral, Ches.—Following, for U.D.C.: Provision laying and jointing of approx. 6.600yd. of concrete tube sewers 57in. and 15in. dia. manholes, the construction of two piled outfall sewers, together with storm overflows and the construction of sludge drying beds and sludge pumping station at the site of the existing sewage disposal works at Heswall. Documents from John H. Haiste and Partners, engineers, Belmont House, 20 Wood Lane. Headingley, Leeds, 6. Deposit £3 3s., cheques payable to U.D.C. Tenders by April 22.

STREET LIGHTING

*Brighouse, Yorks.—Group A street lighting, Leeds Road, A.58, for B.C. Tenders by April 20.

April 20.

East Riding.—Supply and erection of a sodium discharge lighting installation as follows: For the supply and erection of 13 full cut-off lanterns and lighting equipment mounted and wired on steel fluted columns 25ft. high on the Leeds-York-Scarborough trunk road, A.64, overhead lighting at Spital roundabout, for C.C. Documents from the County Surveyor, County Hall, Beverley. Deposit £2, cheques payable to Council. Tenders by April 25.

Esher. Survey —Installation of street light-

Tenders by April 25.

Esher, Surrey.—Installation of street lighting, stage II, contract 300, for U.D.C., comprising provision and erection of columns and brackets, provision and fixing of enclosed lanterns for sodium vapour and fluorescent lamps, together with lamps, control gear and ancillary works, as follows: approximately 15 25ft. high steel columns, 140-W sodium; approximately 178 19ft. high concrete columns, 60-W sodium; approximately 14 15ft. high steel columns, 2 by 40-W fluorescent; approximately 10 replacement of 15ft. high tungsten lanterns by 60-W sodium. Documents from the Surveyor, Council Offices, Esher. Deposit £1 1s. Tenders by April 13.

INTERNATIONAL CONTRACT

New South Wales, Australia.—Manufacture, supply, testing and delivery f.o.b. of approx. 100 miles of 4in. nominal dia., centrifugally spun, cement lined or unlined, cast-iron pipes suitable for push-in rubber ring joints, with unlined cast-iron bends, tees and hydrant tees, sutable for lead jointing, job 3389-W, for Metropolitan Water, Sewerage and Drainage Board. Documents from the Agent-General for New South Wales, 56/57 Strand, London, W.C.2. Tenders by April 12.

AWARDS

BUILDING AND DECORATING (See also Housing Schemes)

Aldridge, Staffs.—Erection of 10 factories off Northgate, for the Morfield Industrial Estate (D., M., A. E. and M. Dean). C. C. Gray, architect, 15 Bridge Street, Walsall: S. Cox and Son, Lichfield Road, Walsall Wood, Staffs. Estimated cost £80,000. Site works

Staffs. Estimated cost £80,000. Site works commenced.

Armagh.— Extension building to Annuale House, Keady, for County Welfare Committee. George D. Taylor architect, 27a English Street, Armagh. F. J. McKinney and Sons, Ltd., Cornmarket Street, Tanderagee, Armagh, £18,163 (accepted); McKinney and Co., Ltd., £18,203; S. and G. Lester, £20,103; Higgins and Murdock, £20,279; A. C. Simpson, £21,449.

Ascot, Berks.—Construction of botal.

Ascot, Berks.—Construction of hostel accommodation for the aged at Larklands, for C.C.: Halfacre and Young, Holyport Road. Maidenhead, £47,787.

Belford, Northumb.—Erection of a public convenience at Benthall, Beadnell, for R.D.C. W. R. Kirk, surveyor: J. Sample and Son, Warkworth, Northumb, £2,225 (accepted); J. Tully and Co., £2,234; Wm. Tully and Sons, £2,639; Wm. Tully, Ltd., £2,645; R. Carse and Son, £2,770. Work commencing April.

tootle, Lancs.—Construction of shopping centre at Netherton, providing for 38 shops and stores of varying size, with garages and maisonnettes, for Central Land Investments, Ltd. J. Brian Cooper and James A. Farquhar, architects, 30 St. George Street, London, W.1.: George Wimpey and Co.. Ltd., Netherfield Road, Liverpool, 5. Work commenced. Bootle.

Carlisle, Cumb.—Erection of new admission unit and two convalescent villas at Garlands Hospital, for Newcastle Regional Hospital Board: John Twiname, Ltd., Allerdale House, Brigham, Cockermouth, £301,430. I. M. Sheppard and Partners, architects, 38 Bedford Place, Bloomsbury Square, London, W.C.I, in conjunction with P. H. Knighton, architect to the Board; Eric Thornley and Partners, Cunard Buildings, Liverpool, 3, are the quantity surveyors. Dalton-in-Furness, Lancs.—Erection of public conveniences at Roanhead, for U.D.C. A. W. Charity, engineer and surveyor: R. Dawson, 71 and 73 Scott Street, Barrowin-Furness, £770. Work commencing April 1. Carlisle, Cumb.-Erection of new admission

ield, Yorks.—Replacement of metal indows in 48 houses on Eastfield Road, for D.C.: L. Easingwood, £2,840 (recom-Driffield.

U.D.C.: L. Easingwood, £2,840 (recommended).

Durham.—Alterations and adaptations to Lumley County School, for C.C. G. R. Clayton, county architect: J. E. Megoran and Son, Ltd., Low Chare, Chester-le-Street, £7,828.

£7,828.

Earl Shilton, Leics.—Erection of four shops with three maisonnettes above at Malt Hill Bank, Barwell, for the Barwell and District Co-operative Society, Ltd.; Archer, Son and Lockley, Ltd., Shilton Road, Barwell, Earl Shilton, Smith, Williams and Harmer, architects, 13 De Montfort Street, Leicester, and C. L. Hubbard, quantity surveyor, 128 Regent Road, Leicester. Demolition work about to commence.

Easington, Dur.—Rebuilding of the Murton

Regent Road, Leicester. Demolition work about to commence.

Easington, Dur.—Rebuilding of the Murton Democratic Club. W. and T. R. Milburn. architects, 4 Grange Terrace, Sunderland: John Parsons (Builders), Ltd., Diamond Hall Works, Sunderland.

Eston, Yorks.—Erection of brick-built garages as follows, for U.D.C.: 10, Bevanlee Road. South Bank: 10, Dee Road, Teesville East estate; 18, Ayton Crescent, Teesville East estate; 18, Ayton Crescent, Eston; eight rear of conveniences, Middlesbrough Road. South Bank. N. C. Harrison, engineer and surveyor: Ideal Builders, 50 Broadway East, Redcar, Yorks., £6,356.

Gateshead, Dur.—Alterations and additions to departmental stores, for E. Shephard, Ltd. Ellison Street. Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street: R. W. Bell and Co., Mistletoe Road. Newcastle upon Tyne.

Gosport, Hants.—Construction of new plant on to existing premises at Fleetland Shippyard, Fareham Road, for Cyanamid of Great Britain, Ltd.: John Hunt, Ltd., Cleveland Road, Gosport. Total estimated cost, including plant to manufacture Melamine, £430,000. Thomas, Jolly, Grant and Kelsey, architects and surveyors, 26 Kent Road, Southsea, and L. A. Mitchell, Ltd., chemical engineers, 73 Basinghall Street, London, E.C.2. Work commenced.

Gosport, Hants.—Erection of a public convenience at Marine Parade East, Lee-on-the-

Gosport, Hants. — Erection of a public convenience at Marine Parade East, Lee-on-the-Solent, for B.C.: Hawkins Bros. (Gosport, Ltd., Westfield Road, Gosport, £4.471 (recommended, subject to Ministry approval).

Hebburn, Dur.—Works extensions, Prince Consort Road, for George Angus and Co.. Ltd.: R. Bowsy and Son, Ltd., William Street South, Gosforth.

Ltd.: R. Bowsy and Son, Ltd., William Street South, Gosforth.

Henley-on-Thames, Oxon.—External decoration of 101 houses and bungalows, for B.C.: D. R. Norris, 19 Westcote Road, Reading, Berks., £1,853.

Houghton-le-Spring, Dur.—Erection of dining hall, assembly hall and kitchen at Houghton-le-Spring Modern School, for C.C. G. R. Clayton, county architect: W. Wigham and Son, Castletown, Sunderland, £23,348.

Ilford, Essex.—Following works, for B.C.: Refreshment pavilion at Valentines Park—Wm. J. Jerram, Ltd., 11 Sandford Road, London, E.6, £6,264; sports pavilions at Seven Kings Park, Goodmayes Park and Goodmayes Park extension—A. J. Smith and Sons (Hornchurch), Ltd., £9,281, £8,423 and £14,500, respectively (recommended).

and £14,500, respectively (recommended).

Isle of Wight.—Pointing of approximately
560 sq. yd. of brickwork and the rendering
of 200 sq. yd. at Grange Viaduct, Brighstone,
for C.C. The viaduct, which is situated on
the Military Road, A.3055, approximately

mile south-west of Brighstone, I. of W.,
is 317ft. long and 45ft. in height: John Fort
Cooper, Ltd., 137 Preston New Road.
Blackburn, Lancs., £1,304.

Islington,— Extensions to factory and offices
at 231 Balls Pond Road, London, N.I., for
Innoxa (England), Ltd., 1 Eden Street,
N.W.I. Lewis Solomon, Kaye and Partners,
architects, Thavies Inn House, Holborn
Circus, London, E.C.I: W. and C. French,
Ltd., Buckhurst Hill, Essex. Estimated cost
£137,000.

Jarrow, Dur. — Addition to Jarrow Simonside
Infants' School, for Durham C.C.: H. F.

Jarrow, Dur. — Addition to Jarrow Simonside Infants' School, for Durham C.C.: H. F. Mole and Co., Ltd., Broadwood View. Chester-le-Street, £2,140.

Lancashire.—Modernisation of ward 18 at Whittingham Hospital, near Preston, for Manchester Regional Hospital Board: Stanley Porter, Ltd., Crofters Sawmills, 214 St. George's Road, Bolton, £38,086 (recommended).

Leicester.—Erection of a depot to the simple of the standard of the standard of the same of the standard of the same of the sa

mended).

Leicester.—Erection of a depot at Scudamore Road, for T. Wall and Son (Ice Cream).

Ltd.: Leslie and Co., Ltd., Peel Street, Kensington, London, W.8. Estimated cost £34,000. Starr, Clifford and Carman, architects, Beedham House, 204 Derby Road, Nottingham, and K. F. Spicer, quantity surveyor, 40 James Street, Wigmore Street, London, W.1. Work commencing May.

Lindsey, Lincs.—Erection of two additional classrooms in brick construction at Waltham Toll Bar Secondary Modern School, containing approximately 916 super. ft. floor area, for C.C. A. Ronald Clark, county architect: Wilkinson and Houghton, Ltd., Sidney Street, Cleethorpes, £3,695. Work commenced.

Liskeard, Corn.—Construction of public conveniences at St. Saviour's Hill, Polruan, for R.D.C. G. Rogers, surveyor: Williams and Hooskin, Morwenna, The Coombs, Pol. pero, £1,988. Work to commence April.

Machynlleth, Monts.—Extension to factory (leased to J. E. Cardwell and Co., Ltd.) for Wales and Monmouthshire Industrial Estates, Ltd., Treforest Industrial Estate, Pontypridd: Isaac Jones (Llanelly), Ltd., Temple Works, Furnace, Llanelly), Carms, estimated cost £22,000. D. M. Craig, estate architect; E. C. Harris and Partners, quantity surveyors, 7-12 Tavistock Square, London, W.C.I.

Margate, Kent.—Construction of (a) a cafe, including an ice cream kiosk and entertainments office, and (b) seven chalets at Newgate Gape and five at West Brook, for B.C.: Operative Builders and Decorators, Ltd., Park Lane, Birchington, Kent, (a) £5,676 and (b) £1,226 (recommended).

Morley, Yorks.—Erection of a fire station at Corporation Street, for West Riding C.C.; J. B. Brook and Sons, 264 Manchester Road, Huddersfield, £25,716.

Newbury, Berks.—Following external painting works, for R.D.C.: 76 houses, four bungalows and 16 garages at Kingsley Close. Shaw.—E. J. Painter and D. Watts, Shaw, Newbury, £1,298; 96 houses and 30 garages at Northfield Road site, Thatcham—H. A. Stradling, 171 Station Road, Thatcham, Newbury, £1,397.

Newcastle upon Tyne.—Extension of linear accelerator building at General Hospital, for Newcastle upon Tyne.—Extension of linear accelerator building at General Hospital, for Newcastle upon Tyne, are the quantity surveyors.

Newcastle upon Tyne, are the quantity surveyors.

Newcastle upon Tyne,—Painting of 1,785 houses, for City Council: Smith's Decorators (Newcastle), Ltd., 135 Stanhope Street, Newcastle upon Tyne, £17,772.

Erection of cloakroom and library at the Kenton Lodge training college, for E.C. Richard Turley and Associates, architects. 46 Jesmond Road, Newcastle: Morris Bros. Back Whitfield Terrace, Newcastle upon Tyne, £18,662.

Nuneaton, War.—Extension to Red Deeps School, for B.C.: W. A. Taberer, Marborough Road, Nuneaton, £5,954 (recommended).

Rochdale, Lancs.—Conversion of second floor

Nuneaton, War.—Extension to Red Deeps School, for B.C.: W. A. Taberer, Marlborough Road, Nuneaton, £5,954 (recommended).

Rochdale, Lancs. — Conversion of second floor of Ward R to provide E.N.T. operating theatre suite and provision of resident medical staff accommodation at Birch Hill Hospital, for Manchester Regional Hospital Board: S. Taylor and Son, Ltd., Greenwood Street, Oldham, £10,676, and William Gornall and Sons, Ltd., Ellesmere Street. Bolton, £13,084, respectively (recommended).

St. Helens, Lancs.—Rebuilding of branch office of Martins Bank, Ltd., in Hardshaw Street, Spence Atkinson, Anthony Clark and Partners, architects, Martins Bank Buildings, Water Street, Liverpool, 2. J. Gerrard and Sons, Ltd., Swinton, Lancs.

St. Pancras.—Following, for B.C.: Conversion and repair of properties at 11 Inkerman Road and I Marsden Street—Goddard and Phillips, Ltd., 118a Highgate Road, London, N.W.5, £1,446 and £3,071, respectively; erection of The Victory public-house, Albany Street—Hall, Bedall and Co., Ltd., Piffield Wharf, Waterloo Bridge, S.E.I. £19,053 (recommended).

Sheffield.—Erection of the Peter Robinson building at the junction of High Street/Angel Street/King Street, for Montague Burton, Ltd.: M. Harrison and Co., (Leeds), Ltd., Post Hill Quarries, Farnley, near Leeds, N. Martin, staff architect; Oswald E. Parratt, quantity surveyor, Adelaide House, London Bridge, London, E.C.4. Work to commence in June.

Southampton.—Following works, for B.C. Erection of three additional classrooms, etc. at Mansel Infants' School — G. Carter and Sons, Ltd., £12,163; Mullen and Lumsden, Ltd., £12,175; Lawrence Jones and Partners, Ltd., £12,176; Lawrence Jones and Partners, Ltd., £12,177; John Lewis Building, Ltd., £12,599; Repainting of street lighting columns—Macartney, Ltd., £1,066; internal redecorations and minor improvements at Portswood Secondary School—Prodec Decorating and General Contractors, £5,043 (recommended).

South Shields, Dur.—Erection of Whiteleas Junior Mixed School, for E.C.: Carruthers and Son, 1 Heugh Terrace, South Shields, £65,404. Page, Son and Hill, architects, 75 King Street; J. S. Glover, 13 Winchester Street, South Shields, quantity surveyor, Construction of lift shaft at Ingham Infirmary, for Newcastle Regional Hospital Board. Gray and Partners, architects. Camden Street, North Shields: D. and 1. Ranken, Ltd., Stockton Road, Sunderland, £2,691.

Ranken, Ltd., Stockton Road, Sunderland, £2,691.
Erection of church, hall and schoolrooms at Steward Crescent, for the Trustees of the Thornholme Methodist Church. S. W. Milburn and Partners, architects, 9 Esplanade, Sunderland: Sam Pace, Kings Road, Sunderland. Work started.

Stourbridge, Worcs.—Construction of dressing rooms and a pavilion at South Road playing fields, for B.C.: Blakeway (Contractors Ltd., Saltwells Road, Netherton, Dudley. £2,651 (recommended).

Sunderland, Dur.—Erection of factory, for North-Eastern Trading Estates, Ltd., Gateshead, on behalf of the Sixty Minute Cleaners, Ltd. S. W. Milburn and Partners, architects, 9 Esplanade, Sunderland: A Monk and Co., Ltd., 38 Albert Road. Middlesbrough. Monk and Co Middlesbrough.

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Amonk and Co., Ltd., 38 Albert Road.
Middlesbrough.
Supply and erection of superstructure for garage at Railway Row cleansing depot, for B.C. T. Donkin, borough engineer, Condor Engineering, Ltd., Burton-on-Trent, £6,242.
Swansea.—Erection of a primary school at Sketty Park, for B.C. H. T. Wykes, borough architect: Bennett Bros. (Contractors), Ltd., Heathfield Works, Carlton Terrace, Swansea, £62,157. Work to commence May.

Tynemouth, Northumb.—Erection of mortuary on the North Groyne Fish Quay, for B.C.: A. Fenwick, 20 Northumberland Square, North Shields, £2,697.
Watford, Herts.—Thirteen lock-up garages at sites adjoining 139 Queen's Road, for B.C.: Bell and Webster (Contractors), Ltd., Essex Road, Hoddesdon, Herts., £2,600 (recommended).
Welshpool, Monts.—Eight garages at Castle Caereinion estate, for B.C.: W. M. Bowen, 52 Borfa Green, Welshpool, £1,160 (recommended).
Wisbech, I. of E.—Construction of temporary out-patient department at North Cambridge-shire Hospital, for the East Anglian Hospital Board: W. and W. G. West, Wisbech, £1,902 (recommended).

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Wisbech, I. of E.—External painting of the following, for B.C.: 116 houses, eight flats and six bungalows at Tinkers Drove—B. V. Smith, Wisbech, £1,250; 104 houses at Southwell Road and 56 houses at Walsoken—L. F. Plummer, Harecroft Road, Wisbech, £1,190 and £641, respectively (recommended) soken—L. F. Plummer, Harecroft Road, Wisbech, £1,190 and £641, respectively (recommended).

Yeovil, Som.—Thirty-seven garages at Sunningdale estate, for B.C.: D. K. Daves, Yeovil, £5,248 (recommended).

CLOTHING AND TEXTILES

kidderminster, Wores.—Supply of 140 bib and brace overalls, sizes 36in. to 50in. 3111/2 quality, and seven boiler suits, sizes 42in. to 50in. 3111/2 quality, for B.C.: Railway and General Stores Contractors (1953), Ltd., 675 Salisbury House, London, E.C.2, 14s. 5d. each and 23s, 9d. each, respectively (recommended).

DEMOLITION

Canterbury, Kent.—Demolition of Simon Langton Boys' School and preparation of car park, for City Council: Dover Demolition and Erection Co., Ltd., 30 Castle Street, Dover, £2,875.

Dover, Kent.—Demolition of Kearsney Abbey, for B.C.: Dover Demolition and Erection Co., Ltd., 30 Castle Street, Dover.

Co., Ltd., 30 Castle Street, Dover.

Sandwich, Kent.—Demolition of brick chimney stack, for J. Lyons (Covent Garden), Ltd., 12-26 Strand Street: Dover Demolition and Erection Co., Ltd., 30 Castle Street, Dover.

Southampton.—Demolition of 1-4 Wigrams Cottages, 42-68, 72-122 and 132-144 Millbank Street, 9-28 Lower York Street, 1-9, 11, 13 and 15-59 Bond Street and 6-16, 21-28 and 39-46 William Street, for B.C.: Southern Salvage Demolition, 25 Priory Road, St. Denys, Southampton, to pay Corporation £440.

Walthamstow. Essex.—Demolition, 66, 63.

£440.

Walthamstow, Essex. — Demolition of 63
Beulah Road, 55 Browns Road and 152-164
Higham Place, and 71-78 Grange Road, for
B.C.: A. R. Wright and Son, Ltd., 18a
Coopers Lane, London, E.10, £385 and £740,
respectively (recommended).

Wanstead and Woodford, Essex.—Demolition
of 45 dwellings at Eastern Avenue housing
site, for B.C.: Road Supply and Construction Co., £145 (recommended).

Whitstable, Kent.—Demolition of 31 and 33

Whitstable, Kent.—Demolition of 31 and 33 Oxford Street: Dover Demolition and Erec-tion Co., Ltd., 30 Castle Street, Dover.

ELECTRICAL

Ammanford, Carms.—Rewiring and renewal of electrical installation of 73 Council houses, for U.D.C. W. T. H. Locksmith, engineer and surveyor: E. J. Daniels, 5 Margaret Street, Ammanford, £2,076. Work commencing April 1

and surveyor: E. J. Daniels, 5 Margaret Street, Ammanford, £2,076. Work commencing April 1.

Downpatrick, Down.—Electrical installation in new office building, Downpatrick, for Ministry of Finance: D. S. Hanna, Main Street, Newcastle, Co. Down.

Hastings, Sussex.—Electrical work to the houses at the Barley Lane estate, for B.C.: F. T. Wordley, 59 London Road, St. Leonards-on-Sea, £825 (recommended).

Southampton.—Following works, for B.C.: Renewal of electrical installation at Bitterne Park Junior School—Dicks, Ltd., 149 High Street, Winchester, £1,214; improvements to electric lighting at King Edward VI School—Groves and Co., 73 Millbrook Road, Southampton, £2,814 (recommended). Tynemouth, Northumb.—Electrical and hot and cold water supply for the new Marden Secondary Modern School, for E.C.: Cairns (Newcastle), Ltd., 23 Picton Place, Newcastle upon Tyne, £15,525 and £43,836, respectively.

Walthamstow, Essex.—Electrical installations at Outwood Common housing estate (stage II), for B.C.: Holliday, Hall and Stinson Ltd., Delta House, Balham High Road, London, S.W.12, £6,426 (recommended).

GAS AND WATER SUPPLY

GAS AND WATER SUPPLY

Aylesbury, Brucks. — Hot water installations to pre-war houses, as follows, for R.D.C.: (Contract 1) 23 houses at Highfield, Long Crendon; (2) four houses at Kingswood; (-) six houses at Worminghall; (4) four houses at Shabbington; (5) eight houses at Oakley; (6) six houses at Quainton; (7) 10 houses at Dinton (to include structural alterations). Raymond C. White, of Raymond White and Ridley, architects, 4 Temple Square, Aylesbury; E. P. Gilkes, 6 Castle Street Aylesbury; (1) £2,852; (2) £504; (3) £826; (4) £520; (5) £1,048; (6) £764—A. N. Dicker, 46 Weedon Road, Aylesbury, (7) £1,711 (provisionally accepted subject to Ministry approval).

visionally accepted subject to Ministry ap-proval).

Ayrshire.— Construction of reinforced con-crete tank at Torcross, near Tarbolton, capacity 250,000 gallons, for C.C. J. Allan, water and drainage engineer: J. and D. Kirkland, 1 Church Street, Kilmarnock, £11,296.

GENERAL MANAGER

required for

GROWTH SITUATION

in field of

READY-MIX CONCRETE and AGGREGATE supply

EXPERIENCE Proven record of profit-earning executive ability, not necessarily in same industry.

Ample capital available to back growth of organisation SCOPE which applicant will be expected to develop on own initiative.

30 to 50. AGE

According to experience but NOT LESS than £2,500. STARTING SALARY LOCATION -Mainly southern half England.

Applications, which will be treated in the strictest confidence, to:

Ref. G.M., Messrs. Peat Marwick Mitchell & Co. Il Ironmonger Lane · London · E.C.2. -

Lancaster.—Excavation of trenches and the laying of water mains within the area of supply, for City Council: N. Jackson, Old Cooperage, Gatebeck, Kendal, £1,038.

Orkney.—Water supply, phase III, Kirbister and Boardhouse schemes, contract 17, Linty Brae tank, for C.C. Crouch and Hoge, engineers, 18 Woodside Crescent, Glasgow. C.3; Alexander Sutherland, Ltd., Kirkwall, Orkney, £20,256.

Orkney, £20,296. illiton, Som.—Construction of the Strogursey water supply scheme, comprising Castle Street and Monkton Farm area main replacement, for R.D.C. S. E. Balch, engineer: H. W. Pollard and Sons, Bridgwater, Williton.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Southampton.—Steel sheet piling at Chapel Wharf, for B.C.: A. Jackaman and Son. Ltd., Bath Road, Slough, Bucks., £10,490 (recommended).

HEATING AND VENTILATING

Clitheroe, Lancs.—Improvements to engineering services at Clitheroe Hospital, for Manchester Regional Hospital Board: Whitlock Heating Co., Ltd., Albert Buildings, Garstang Road, Preston, £13,406 (recom-

Heating Co., stang Road, Preston, stang Road, Preston, mended).

Omagh.—Low pressure hot water heating, hot and cold water, mains water, and gas installations in new office building, for Ministry of Finance: Brightside Heating and Engineering Co., Ltd., 36 Victoria Square, Mechanical services at extensions of the control of the contro

try of Finance.
neering Co., Ltd., 36 VICTORIA
Belfast, 1.
Walthamstow, Essex.—Mechanical services at
Sidney Burnell Secondary School (extensions), for B.C.: W. J. Fretwell (London).
Ltd., 33 High Street, London, E.13, £12,819

HOUSING SCHEMES

Aylesbury, Bucks.— (a) Twelve flats at Stone, (b) 12 bungalows and 16 houses at Brill, (c) four bungalows at Oving, for R.D.C.: (a) R. J. Vyles, Temple Street, Brill, £15,319; (b) Jennings and Prosser, Temple Street,

Brill, £41,269, and (c) Creed Bros., 23
Frederick Street, Waddesdon, £4,856 (accepted provisionally).

Ballymena, Antrim. — Thirty-seven houses and the construction of site works at Ballymacvea (near Kells), scheme 12, for R.D.C. Ogilby and McCutcheon, chartered surveyors, 9 Upper Crescent, Belfast: Saml. Moore and Co., Corbally, Ballymena, £66,416 (accepted); R. J. Smyth and Sons, £71,226; The Ballymena Construction Co., Ltd., £86,600; James P. O'Hara, £70,009; David McKeown, £67,962; John O'Mullen and Co., £71,860. Work expected to start May. McKeown, £ Co., £71,860. May.

McKeown, 267,962; John O'Mullen and Co., £71,860. Work expected to start May.

Banbury, Oxon. — Thirty-eight dwellings at Deddington, for R.D.C. Creswell and Hadland, quantity surveyors, 50 The Green Banbury: Coleman and Tyas, Ltd., Bidford-on-Avon, £61,894. Work commencing April.

Barking, Essex.—Following works at Linton and Church Road areas, for B.C.: Supply and erection of the reinforced precast concrete floors, roofs and party and external walls to the 16-storey block and the six 7-storey blocks, and the fixing of 2,579 metal windows (single glazed)—Concrete (Southern), Ltd., Green Lane, Hounslow, Middx, £344,090; double glazing for 2,579 windows—Multiglass, Ltd., £13,836; asphalt coverings and internal finishing to 374 housing units—Hawker-Smith, Ltd., West Street, Erith, Kent, £511,600 (recommended).

Basildon, Essex.—Three hundred and twenty dwellings at Vange, for the Development Corporation: Leslie and Co., Ltd., Peel Street, Kensington, W.8, estimated cost £572,000. William Crabtree, architect, 8 Robert Adam Street, London, W.1, in association with A. B. Davies, chief architect of Corporation; E. C. Harris and Partners, quantity surveyors, 7-12 Tavistock Square, London, W.C.I.

Bermondsey.—Erection of blocks 6, 7 and 8 at Slippers Place site, providing for a total of 64 dwellings in four and six-storey blocks, for B.C.: Direct Labour, £147,529 (recommended).

Biggleswade, Beds.—Forty-eight houses at London Road, for U.D.C. T. Wilson, engineer and surveyor: A. G. Baxter, Ltd., 24

Regent Street, Stotfold, Beds., £64,833 (accepted); R. and H. Wale, Ltd., £66,970. Bishop Auckland, Dur. — Fifty houses in pairs at Gudmunsen Avenue, Woodhouse Close estate, together with all site and ancillary works, scheme 27, for U.D.C. John Ford, engineer and surveyor: Edwin Pye and Son, East Parade, Bishop Auckland, £66,384 (accepted); R. G. Findlay, Ltd., £69,367; John Twiname, Ltd., £69,588; Edgar Lawson, Ltd. £73,112; Bell and Ridley, Ltd., £73,769; Isaac Berriman, Ltd., £84,270. Work commencing April.

Bourne, Lincs.—Four bungalows at Alexandra Terrace, for U.D.C.; L. P. Longland, Langtoft, Peterborough, £4,524.

Canock, Staffs. — Following works, for

Cannock, Staffs. — Following works, for R.D.C. W. J. Page, engineer and surveyor; Forty-four dwellings and eight garages, Coven—F. A. and H. Taylor, Croxstalls Road, Bloxwich; one pair of houses and 14 garages, Great Wyrley—Bishop Burns and Co., 21 Tettenhall Road, Wolverhampton.

Co., 21 Tettenhall Road, Wolverhampton.

Chipping Norton, Oxon.—Two pairs of houses at Walterbush Road site, for B.C.: H. A. Bennett and Sons, Ltd., 4 Horse Fair, Chipping Norton, £7,164 (subject to Ministry approval).

Cricklade and Wootton Bassett, Wilts.—Tenhouses and 10 bungalows at Lyneham, for R.D.C., including site and substructure works, drains, water services, fences, finishing carpet to carriageway, and complete making-up of footpaths.

J. C. Grindley, engineer and surveyor: Baldwin Bros, (Builders), Ltd., 28 High Street, Wroughton, near Swindon, £32,127.

Hastings, Sussex.—Block of eight flats with

near Swindon, £32,127.

Hastings, Sussex.—Block of eight flats with piled foundations at Willingdon Avenue, for B.C.: Ringmer Building Works, Ltd., Ringmer, Lewes (recommended, negotiated tender, subject to Ministry approval). Estimated cost £11,000.

Haverhill, Suffolk.—Seven bungalows in one block, with ancillary works, for U.D.C.: T. J. Archer and Co., Ltd., Ridgewell, Essex, £8,263.

Hebburn, Dur.—Seventeen houses at Hebburn

Hebburn, Dur.—Seventeen houses at Hebburn Quay, for U.D.C.: Direct Labour, £23,887. Liverpool. — Following works, for City Coun-

TR A FOR ASPHALTE · TARMACADAM · FELT ROOFING

LONDON - BARROW - BIRMINGHAM - CANTERBURY - EXETER - GLASGOW - LINCOLN - LIVERPOOL - MANCHESTER - NEWCASTLE



cil: 12 dwellings at Beechwood—Direct Labour; eight dwellings in Edge Lane Drive—R. J. Barton and Sons, Altcar Road, Formby, £18,866
Romsey and Stockbridge, Hants.—Twenty houses on site 40 Eldon Road, King's Somborne, for R.D.C.: Carter and Sons, £28,039.
St. Pancras.—Following, for B.C.: Twenty-four flats at Oseney Crescent extension—Harry Neal, Ltd., 117 Baker Street, London, W.I. £52,713; 12 dwellings at Regent's Parkarea C.—Direct Labour, £16,800 (both recommended). recommended).

Whiston, Lancs.—Four aged persons' bunga-

Whiston, Lancs.—Four aged persons' bungalows of traditional construction on a site at Pepper Street, Hale, for R.D.C.: Harper and Finch, Church Street, Warrington, £5,118.
Tynemouth, Northumb.—Forty-four one-bedroom dwellings on scattered sites, for B.C. D. M. O'herlihy, borough engineer: Whittall (Builders), Ltd., Pilgrim Street, Newcastle upon Tyne, £41,133.

MATERIALS AND SUPPLIES

Barking, Essex.—Supply of (a) metal windows and (b) True Flue stack units and fireplace and boiler assembly, for B.C.: Henry Hope and Sons, Ltd., 17 Berners Street, London, £1,523, and True Flue, Ltd., 58 Acacia Road, London, N.W.8, £1,000, respectively (recommended).

(recommended).

Walthamstow, Essex.—Thermoplastic floor tiling for Outwood Common housing estate
(stage II), for B.C.: British Mouldex, Ltd.,
27 Fitzroy Street, London, W.I. 9s. 3\d/d. per
super. yd. (recommended).

PLANT AND MECHANICAL TRANSPORT

Hastings, Sussex.—Supply of a diesel-driven compressor, for B.C.: Broom and Wade, Ltd., 7 Norfolk Street, London, W.C.2, £974 (recommended).

frecommends.

St. Ives, Corn.—Supply of one Bedford diesel engine 3-ton short chassis lorry and cab, for B.C.: Harvey, Robinson and Taylor, Queen Street, Penzance, £1,117.

PLAYING FIELDS, PARKS, ETC.

Peterborough.—Construction of school playing field, for Joint Education Board, comprising (contract 1) cleaning, grading, preparation and seeding of 11.3 acres, the provision and erection of 980 lin. yd. of chain link fencing; (2) cleaning, grading, preparation

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and seeding of approximately 3½ acres, the provision and erection of 1,200 lin, yd, of chain link fencing, construction of a turf cricket square, renovations to existing seeded areas, supply of sports equipment and ancillary works. L. H. Robjohn, surveyor: Overton (Playing Fields), Ltd., 447 High Street, Lincoln, (1) £3,953 and (£5,878.

RAILWAY ENGINEERING

British Railways.—Following contracts placed: Eastern Region:

RAILWAY ENGINEERING
Castern Railways.—Following contracts placed:
Castern Region:
Construction of new ticket office building
and platform waiting rooms at Wath North
station: J. Dixon (Doneaster), Ltd., Greenfield Lane, Balby, Doneaster,
Reconstruction of parapets and repairs
to arches 29, 30 and 31 of Frodingham
Viaduct between Althorpe and Scunthorpe
and Frodingham: Thomas Fletcher and Co.,
Ltd., Forest Road, Mansfield.
Cleaning and painting of various carriage
shops at Doneaster Carriage Works: A.
Cameron, Ltd., Hamilton House, 839/84!
London Road, North Cheam, Sutton, Surrey.
Construction of new extension at bridge
level, alterations to station buildings and
provision of external concrete ramp and
canopy to platform 1 at Upminster station:
Holliday and Greenwood, Ltd., 11 Buckingham Palace Gardens, London, S.W.1.
Modifications to existing 33-kV 750-MVA
Class MF.36 switchgear at Ramsden Bellhouse, Rayleigh and Prittlewell sub-stations:
Associated Electrical Industries, Ltd.,
Neasden Lane, Willesden, London, N.W.10.
Completion of superstructure to new
carriage shed, provision of drainage and
water services and construction of roads,
paths and entrance, concrete water tower,
amenity buildings, boiler house at East Ham:
Tersons, Ltd., 4 Dollis Park, Finchley, N.3.
Supply, installation and testing of 12channel carrier telephone systems and
associated terminating equipment and test
apparatus in the King's Cross, East Ham,
Tilbury Riverside and Southend East and
King's Cross, Seven Sisters and Broxbourne
areas: Standard Telephones and Cables,
Ltd., North Woolwich, London, E.16.
Remodelling of station and construction
of dive-under line for Clacton branch (excluding bridges 1001D and 1001E) at Colchester: The Cementation Co., Ltd., 20
Albert Embankment, London, S.E.11.

ROADS, BRIDGES AND SITE WORKS

ROADS, BRIDGES AND SITE WORKS
Adwick-le-Street, Yorks.—Extension of roads
and greens at Adwick Cemetery, for U.D.C.:
1. Dickinson and Sons (Emley), Ltd., Watchhouse Lane, Doncaster, £1,695.
Aylesbury, Bucks.—Provision of road and
sewers on the housing estate at Stone, comprising road about 230ft. in length, storm
water and soil sewers, verges, for R.D.C.:
S. Green and Sons, Highlands Farm, Henleyon-Thames, Oxon, £2,395 (provisionally
accepted, subject to Ministry approval).
Barking, Essex.—Following works, for B.C.:
Construction of concrete Carriageway.

Construction of concrete carriageway, sewers and foundations of blocks 2, 3 and 4 at Linton Road redevelopment area—W. and C. French, Ltd., 50 Epping New Road, Buckhurst Hill, Essex, £28,340 (recommended).

C. French, Ltd., 50 Epping New Road, Buckhurst Hill, Essex, £28,340 (recommended).

Landscape treatment and siteworks at Linton Road—Direct Labour (recommended). Estimated cost £50,750.

Bingley, Yorks.—Construction of roads and sewers for George Luscombe, Ltd., on the Priesthorpe Road estate, and roads and sewers for Fred Jowett, Ltd., on the Spring Park estate at Wilsden: A. E. Morris (Yorkshire), Ltd., Russell Street Chambers, Bingley.

Brighton, Sussex.—Widening and reconstruction of Warren Road and Falmer Road, Woodingdean, for B.C.: Surface Maintenance Services, Ltd., Durham House, 124 Old Christchurch Road, Bournemouth, £43,460.

Camberwell.—Asphalt paving works in Old Kent Road and Half Moon Lane, for B.C.: The Mowlem Paving Co., Ltd., 19 Grosvenor Place, London, S.W.I. £5,782 (recommended).

Chester.—Following works, for City Council: Makingun Dickson's Drive (caret) and

Grosvenor Place, London, S.W.1, £5,782 (recommended).

Chester.—Following works, for City Council: Making-up Dickson's Drive (part) and Broadway East and Broadway West (part)—W. E. Parsons and Co., Ltd., Newton Hall estate, Chester, £1,960 and £3,321, respectively; widening and improvement of Plas Newton Lane: Percy Bilton, Ltd., Bilton House, Newcastle Road, Stone, Staffs., £34,062 (recommended).

Hammersmith.—Footway maintenance works during 1960-61, for B.C.: J. Murphy and Sons, Ltd., 43 Charteris Road, London, N.4. £2,589 (recommended); London Paving Co., Ltd., £2,975; J. H. Hitchen, £3,267; Alexander Thomson and Co., (London), Ltd., £3,527 Fitzpatrick and Sons, Ltd., £3,682; W. F. Rees, Ltd., £3,843.



Hastings, Sussex.—Following works, for B.C.:
Construction of the roads and sewers at
the Ponswood industrial estate extension—
Nicholson Construction Co., Ltd., 4 Leinster
Gardens, London, W.2, £18,623 (recom-

Nicholson Construction Co., Ltd., 4 Leinster Gardens, London, W.2, £18,623 (recom-mended). Surfacing various carriageways: Chitten-den and Simmons (Contracting), Ltd., Robertsbridge Station, Robertsbridge, Sussex (recommended).

Robertsbridge Station, Robertsbridge, Sussex (recommended).

Ilford, Essex.—Ilford Broadway improvement (stage II), for B.C. H. J. Mulder, engineer and surveyor: J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, N.4, £33,915 (accepted); Percy Bilton, Ltd., £37,667; Fitzpatrick and Son (Contractors), Ltd., £36,579; W. and C. French, Ltd., £47,570; Ruddock and Meighan, Ltd., £38,086.

Keighley, Yorks.—Construction of roads and sewers on the Gledhow estate, Oxenhope. H. Bailey, architect, 1 Park Road, Bingley: A. E. Morris (Yorkshire), Ltd., Russell Street Chambers, Bingley.

Kidderminster, Worcs.—Resurfacing of various footpaths and carriageways within the Borough during the coming financial year, for B.C.: Taroads, Ltd., Springfield. Dudley (recommended). Estimated cost £1,500.

King's Lynn, Norfolk.—Construction of site

(recommended). Estimated cost £1,300. King's Lynn, Norfolk.—Construction of site works, roads and sewers at Hardwick Road industrial trading estate, for B.C.: J. A. Sandover and Co., Setch, King's Lynn, £27,419 (recommended).

Sandover and Co., Settin, King's Cyni, £27,419 (recommended).

Kiveton Park, Yorks.—Following, for R.D.C.: Construction of about 1,080 lin. yd. of 9in. and 1,250 lin. yd of 6in, diameter concrete tube sewers with appurtenant manholes. together with the construction of a small sewage ejector station in the parish of Harthill with Woodall. Elliott and Brown. consulting engineers, Stanley House, Pelham Road, Nottingham: Robt. Harrison and Sons. Ltd., Wales Road, Kiveton Park, £12.337 (accepted); Moss and Cummins (Civil Engineers), Ltd., £16,130; Tarslag, Ltd., £22,951; John Turner and Sons (Beighton). Ltd., £13,758; Mactrac, Ltd., £16,900; H. Camm and Co., Ltd., £13,951; G. G. Middleton and Sons, Ltd., £16,785; Craggs Building Co., Ltd., £13,893; West Riding Building Contractors, £17,200.

Liverpool.—Construction of roads and sewers in Mackett's Lane area, for City Council:

D.C.M. (Contractors), Ltd., Bluebell Lane, Huyton, Liverpool, £297,770.

Margate, Kent.—Making-up Orchard Gardens, for B.C.: Johnson Bros. (Aylesford), Ltd., Broad Oak Road, Canterbury, £3,977 (recommended).

Middleton, Lancs.—Making-up of Hill Street, Vincent Street, Bamford Avenue and Smithies Avenue, for B.C.: James McGowan, Ltd., 25a Oldham Road, Rochdale.

Rochford, Essex.—Forming tarmacadam foot-

Ltd., 25a Oldham Road, Rochdale.

Rochford, Essex.—Forming tarmacadam footpaths, kerbing, etc., at Mercer Avenue and Olivers Crescent and a close road, for R.D.C. J. F. E. Nutt, engineer: W. Iles, 9 Swanage Road, Southend-on-Sea, £6,149 (accepted); Essex Plant and Contracts, Ltd., £6,899; J. Thornback and Sons, Ltd., £7,021.

(accepted); Essex Plant and Contracts, Ltd., £6,899; J. Thornback and Sons, Ltd., £7,021.

Southampton.—Following works, for B.C.: Soil survey of Thornhill (section IV) and Weston Farm foreshore sites—Ground Exploration, Ltd., 75 Uxbridge Road, London, W.5, £907; site preparation at Bitterne Road-Bath Road housing site (contract S.214)—Southern Counties Construction Co., Ltd., 204 London Road, Waterlooville, Portsmouth, £16,891 (recommended, subject to Ministry approval).

Stourbridge, Worcs.—Making-up of approximately 100yd. of carriageway, footway and verges at Westwood Avenue, Norton estate, for B.C.: Ward and Birks, 66 Wolverhampton Road West, Bentley, near Walsall, £1,437 (recommended).

Sutherlandshire.—Construction of Strathsteven overline bridge in steel and reinforced concrete, together with earthworks and surfacing of the approach roads, for C.C. Blyth and Blyth, consulting engineers, 135 George Street, Edinburgh: Alexander Sutherland, Ltd., Main Street, Golspie, £57,552.

Swaffham, Norfolk.—Construction of a road

Swaffham, Norfolk. — Construction of a road and footpaths on the Briar Close housing estate, Necton, for R.D.C.: Potter Bros., Yaxham Road, Dereham, £1,557.

Yaxham Road, Dereham, £1,557.

Torquay, Devon.—Provision and mechanical laying of hot rolled asphalt on various roads, involving approximately 22,000 sq. yd. of surfacing, for B.C.: Exeter Asphalte and Tarpaving Co., Ltd., Exhibition Way, Pinhoe Trading Estate, Exeter, £9,375.

Walthamstow, Essex.—Following works, for B.C.: Resurfacing of South Access Road—George Wimpey and Co., Ltd., 26 Hammersmith Grove, London, W.6; improvement at

junction of Wood Street and Lea Bridge Road—Fitzpatrick and Sons (Contractors), Ltd., 455 Old Ford Road, London, E.3, £7,621 (recommended).

&7,621 (recommended).

Walton and Weybridge, Surrey.—Esher Road by-pass and widening, A.244, involving the construction of approximately 1,380 lin. yd, of dual carriageway road in lean-mix concrete with asphalt surfacing, together with kerbing, footways, verges, drainage and other ancillary works, for U.D.C.: William Old, Ltd., 433 Pinner Road, Harrow.

Old, Ltd., 433 Pinner Road, Harrow. Middx., £86,007.

Wanstead and Woodford, Essex.—Resurfacing of Lake House Road, for B.C.: Waywarden, Ltd., Waywarden House, 215 Forest Road, E.17, £1,823 (recommended).

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

DISPOSAL

Belfast.—Laying from University Street to Balfour Avenue of sewer with ancillary works, for City Council: A. J. Clancy, Ltd., 12 Antrim Road, Belfast, 5, £12,773.

Chester.—Construction of the Blacon trunk sewer, for City Council: C. V. Buchan and Co., Ltd., Burges Hill, Sussex, £73,775 (recommended).

Dartford, Kent.—Construction of a main drain age scheme at Longfield, for R.D.C. B. F. Kirby, engineer and surveyor: S. G. and A. Agombar, 109 Elmers End Road, Beckenham, Kent, £144,212. Work has commenced.

Daventry, Northants.—Construction of the

ham, Kent, £144,212. Work has commenced.

Daventry,
Northants.—Construction of the Watford sewerage scheme, for R.D.C.: C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10, £27,804 (subject to Ministry approval).

Ellesmere Port, Ches.—Construction of 354 lin. yd. of 27in. diameter surface water sewers and 40 lin. yd. of 9in. diameter foul sewers, in Wellington Road and Grange Road, contract 286, for B.C. C. W. Davies, engineer and surveyor: J. W. Flather, Ltd., Bleak House, Ellesmere Port, £7,642 (accepted); Wm. Bradshaw (Contractors), Ltd., £7,571; Martin Coleman, Ltd., £8,613; W. E. Parsons and Co., Ltd., £9,139. Work commencing April.

Hawarden, Flints.—Sewage pumping station at Pentre, Queensferry, for R.D.C. Construction of an automatic pumping station about 18ft. deep, the substructure to be in mass concrete and the superstructure in

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GENERAL ROADWOR

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brickwork, also the provision and laying of 10in. and 12in. diameter interconnecting iron pipework. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham: Whitley Bros., Holt Road, Wrexham, £8,029.

Newbury, Berks.—Supplying and fixing plant for the pumping stations at Lower Way Lane and the sewage disposal works, for B.C.: Pulsometer Engineering Co., Ltd., 39 Victoria Street, London, S.W.I. £2,862 and £5,201, respectively (recommended).

Pickering, Yorks.—Construction of approxiately 2,300yd. of sewers, ranging from 6in. to 12in. diameter approximately 300yd. of 4in. diameter cast-iron pumping main, with other ancillary works; a small pumping station and a disposal works at Simmington, for the R.D.C.: A. Taylor and Sons, Hungate, Pickering, £17,389. Work expected to commence in April.

Rochford, Essex.—Hullbridge sewerage, second development, Ferry Road area, for R.D.C.. comprising the construction of about 600yd, of 6in. and 9in. dia, stoneware pipe sewers, with brick manholes, and a similar length of 6in. diameter rising main in asbestos-cement pressure pipe; also a sewage pumping station, with reinforced concrete storage sump and pump well, and brick superstructure: Coward Contractors, Ltd., 101 Lower Anchor Street, Chelmsford, Essex, £20,987 (accepted); W. Iles, £21,501; Roads and Public Works, Ltd., £23,156; R. W. Hill and Co., Ltd., £23,1761.

St. Albans, Herts.—Construction of sewer, Redbourn Lane, Harpenden, for R.D.C. F. Wilkinson, engineer and surveyor: Tracie Smith and Co., Chesham Road, Bovingdon, Herts.

Tracie Smith and Co., Chesham Road, Bovingdon, Herts.

Southam, War.—Extensions to the sewage disposal works, for R.D.C., consisting of the construction of an upward flow settlement

tank having a capacity of 35,800 gallons, two circular percolating filter beds, capacity to 1,490 cu. yd., an upward flow humus tank, 12,970 gallons, sludge-drying beds, area 570 sq. yd., and the construction of a sewage pumping station, together with the necessary drains, chambers, pumping mains, etc. W. Herbert Bateman and Partners, consulting engineers, Batheaston, Norwich and Westminster: Divis (Contractors), Ltd., 10 Wrentham Street, Birmingham, 5, £45,881. Work about to commence.

mence.

Southampton. — Construction of surface water culvert at Warren Avenue, for B.C.: H. Osman and Co., Ltd., Winchester Road, Southampton, £9,497 (recommended).

Wakefield, Yorks.—Construction of sewer at Birkwood, Crofton, for R.D.C.: M. Deevers and Co., £4,636.

Stourbridge, Worcs. — Construction of foul and surface water sewers at Wollaston Farm estate, for B.C.: Ward and Birks, 66 Wolverhampton Road West, Bentley, near Walsall, £722 (recommended).

STREET LIGHTING

Dalton-in-Furness, Lancs.—Supply and installation of 78 group A sodium vapour lighting units, control gear and steel columns including erection and wiring of equipment for U.D.C.: Engineering and Lighting Co., Ltd., Sphere Works, Campfield Road, St. Albans, Herts., £6,423. Work commencing April

Albans, Herts, £6,423, Work commencing April.

Halesowen, Worcs.—Supply and erection of 77 class A, 616 class B street lamps for B.C.: General Electric Co., Ltd., Newhall Street, Birmingham, 3, £13,738 (recommended). King's Lynn, Norfolk.—Following street lighting works on trunk roads A.47 and A.17. for B.C. H. Ridler, borough engineer: Supply of lanterns, suitable for 140-W sodium vapour disharge lamps, and control

gear suitable for use with 140-W sodium vapour discharge lamps—Atlas Lighting, Ltd., Thorn House. Upper St. Martins Lane, London, W.C.2, £714 (accepted); General Electric Co., Ltd., £721; Engineering, Lighting and Equipment Co., Ltd., £738; The Wardle Engineering Co., Ltd., £776; A.E.I. Lamp and Lighting Co., Ltd., £812; Revo Electric Co., Ltd., £852; Cohen Bros. (Electrical), Ltd., £870; Siemens-Edison Swan, Ltd., £962.

Steel columns, 25ft. mounting height—General Electric Co., Ltd., Magnet House, Rutland Street, Leicester, £1,589.

Erection of 25ft. tubular steel lighting columns and the wiring and fixing of 140-W sodium vapour discharge lamps, jackets and lanterns and control gear—Bagshaws (Contractors), Ltd., 83 Jackroyd Lane, Newsome Huddersfield, £383 (accepted); Abacus Engineering, Ltd., £441; Atlas Lighting, Ltd., £488; General Electric Co., Ltd., £498; H. Smyth, £639; Cohen Bros. (Electrical), Ltd., £930. Work commencing April.

Stourbridge, Worcs.—Supply of street lighting columns, for B.C.: Stanton Iron Works Co., Ltd., near Nottingham, £4,809 (recommended).

GOVERNMENT CONTRACTS

Air Ministry.—Contracts to the value of £500 or over for the week ended March 18:

Building work: Waddington, Lines.—J. W. Stamp and Co., Ltd., Nuthall Road, Bobbers Hill, Notts.; Finningley, Yorks.—James Miller and Partner, Ltd., Four Mile Works, Wakefield, Yorks.; Wittering, Northants—Robert Marriott, Ltd., Midland Works, Rushden, Yorks.; Rattlesden, Suffolk—Haymills (Contractors), Ltd., Hanger Green, iland W. Hay-Suffolk—Hay-Green,





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Western Avenue, London, W.5; Newhaven. Sussex—Caffin and Co., Ltd., 25 Craven Street, Strand, W.C.2.
Resuracing works: Middleton St. George, Leconfield, Leuchars and Wattisham — Constructex, Ltd., Oyster Lane, Byfleet, Surrey. Artificers' work: Exeter Airport, Devon—Devon Contractors, Ltd., Venny Bridge. Whipton, Exeter.
Structural steelwork modifications of superstructions: Lakenheath, Suffolk—Newtown Steelwork Co., Ltd., P.O. Box 13, Burnley, Lancs.

Metropolitan Police.-Recent contracts placed

include:
Erection of divisional police station and married quarters, Gloucester Circus. Greenwich, S.E.10 — Harry Neal, Ltd.. £199,931.
Erection of sub-divisional police station. Rainham Road, South Dagenham, Essex—W. and C. French, Ltd., £78,817.
Alterations and additions to sports club house, Chigwell, Essex—Geo, Barker (Builders), Ltd., £14,357.

Ministry of Works.—Contracts placed for week ended March 12:

Buckinghamshire: Psychiatric Prison, Grendon Underwood—erection of steam boilers. etc—Danks of Netherton, Ltd., Dudley.

of Netherton, Ltd., Dudley, Worcs.
Flintshire: Post Office, East Road, Molderection of sorting office—Alun Edwards, Ltd., Cefn-y-Bedd, near Wrexham.
Lancashire: Head Post Office, Bolton—alterations and decorations—W. Snape and Sons, Ltd., Clifton Road, Eccles.
London: Government Offices, Great George Street, S.W.I—thermal insulation—Newalls Insulation Co., Ltd., Purley Way, Croydon, Surrey; modernising heating services—G. N. Haden and Sons, Ltd., 7 Tavistock Square, W.C.1; Land Registry, Lincolns Inn Fields, W.C.2—erection of lift—Keighley Lifts, Ltd., Dalton Lane, Keighley, Yorks.; Marlborough House, S.W.I.—modernising services—Higgs and Hill. Ltd., South Lambeth Road, S.W.8; erection of passenger lift—Otis Elevator Co., Ltd., Falmouth Road S.E.1; Old County Hall, Spring Gardens, S.W.I.—alterations and decorations—Clemens Bros., Ltd., 77 Derby Road, E.7; Greenwich Observatory, S.E.10—eradication of dry rot—Higgs and Hill. Ltd. South Lambeth Road, S.W.8; Royal Courts of Justice, W.C.2—electric lighting, power, etc.—Beasley Electrical Contracting Co., Ltd., Latchmere Road, S.W.1; erection of

circulating pumps, etc.—Regional Heating Co., 28 Victoria Street, S.W.1. Northamptonshire: P.O. Radio Station, Morborne Hill, Peterborough — erection— H. J. Firman, Ltd., Newark Road, Peter-borough

H. J. Firman, Lto., Newark Mode, 2 comborough.

Northumberland: Tynemouth Castledemolition of redundant buildings—Demolition and Construction Co., Ltd., 3 St. James's Square, S.W.I.

Shropshire: Post Office, Haygate Road.
Wellington—erection of automatic telephone exchange—A. F. R. Godfrey, Ltd., 46
Waterloo Road, Wolverhampton, Staffs.

Surrey: Telephone Exchange, Claygate—

Surrey: Telephone Exchange, Claygate—layout of forecourt—W. H. Gaze and Sons. Ltd., 139 Roehampton Vale, S.W.15.

Contracts placed for week ended March 19:

Ltd., 139 Roehampton Vale, S.W.15.

Contracts placed for week ended March 19:
Berkshire: temporary office building,
Whiteknights, Reading—domestic cleaning—Industrial Cleaners, Ltd., Allingham
Street, N.W.1.
Buckinghamshire: Post Office, Newport
Pagnell—alterations and additions—Betts
and Faulkner, Ltd., 30 a High Street, Stony
Stratford.
Cambridge-asphalting work to
four spurs—Cambridge—asphalting work to
four spurs—Cambridge—Asphalt Co., Ltd.,
Swann Road, Cambridge.
Lancashire: Telephone Exchange Blackburn—erection—Melville, Dundas and Whitson, Ltd., 21 Blythswood Square,
Glasgow, C2.
London: Sorting Office, Tottenham, N.17—
erection — Rowley Bros., Ltd., Tower
Works, Dunloe Avenue, Tottenham, N.17;
Government Offices, Great George Street,
S.W.1—electrical installation—G. W. Day
and Co., Ltd., 9-10 Dacre Street, S.W.1;
Royal Naval College, Greenwich, S.E.10—
electrical installation—Grierson, Ltd., 140
Cromwell Road, S.W.7; Turnstile House,
94-99 High Holborn, W.C.1—internal cleaning—J. W. Green (Painters), Ltd., 171
Graham Road, Wimbledon, W.S.19; General
Post Office, 32-33 Farringdon Street, E.C.4—
acoustic tiling—Insulation Services, Ltd.,
63 Lincolns Inn Fields, W.C.2.
Sussex: Inland Revenue Office, Eastbourne—occupational services—Y. J.

53 Lincoins Inn Fields, W.C.2.

Sussex: Inland Revenue Office, Eastbourne—occupational services—Y. J.

Lovell and Son, Ltd., 10 Gildridge Road,
Eastbourne.

Warwickshire: Joint Office Building
Great Charles Street, Birmingham—internal
decorations—Whiteman Decorations, Ltd.,
179 Gravelly Lane, Erdington, Birmingham, 23.

Post Office.—Contracts for duct laying, etc., works to the value of £500 and over placed during the week ended March 19.:

works to the value of £500 and over placed during the week ended March 19.:

H. Ashley, Sheepbridge Lane, Mansfield, Notts.; The Baillie Contracting Co., Ltd., 2061 Coventry Road, Sheldon, Birmingham, 26; Thomas Carey and Son, Ltd., Station Buildings, East Finchley, London, N.2; C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; James Cooper (Construction), Ltd., 28 Kensington Church Street, London, W.8; Crawford and Cryan, Ltd., 124 Stafford Road, Wallington, Surrey; W. H. Dingle, Ltd., Seton, Mount Ambrose, Rudruth, Corn.; The Eden Construction Co., Ltd., English Damside, Carlisle, Cumb.; J. Galvin and Sons, 53 Parkside Way, North Harrow, Middx.; J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, London, N.4; The North Midland Construction Co., Ltd., Portland Works, Daybrook, Nottingham; The Norwest Construction Co., Ltd., Litherland Liverpool, 21; Robert Paterson and Sons, Ltd., Milton Street, Airdrie, Lanarks.; William Press and Son, Ltd., 22 Queen Anne's Gate, Westminster, London, S.W.1; Regan and Almond, Ltd., 30 Sutton Road, Heaton-Norris, Stockport, Ches.; D. J. Sullivan (Bristol), Ltd., 16 Burlington Road, Redland, Bristol, 6; George Taylor (Wolverhampton), Ltd., The Viewlands, Cross Road, Albrighton, Wolverhampton, Staffs.; Alexander Thomson and Co., Ltd., Hammersmith, London, W.8; George Wimpey and Co., Ltd., B Shaw Street, Liverpool, 6.

War Department. — Contracts placed for the week ended March 11:

Gloucestershire (Beachley): playing fields Bradshaw Bros. (Contractors), Ltd., Leicester.

Leicester.

Hampshire (Marchwood): roadwork—Constable Hart and Co., Ltd., Cosham, (Aldershot): painting—Arnold Sharrocks, Ltd., Aldershot; (Bordon): water supply—George Stow and Co., Ltd., Slough.

Lanarkshire (Lanark): painting—Brown Bros, (Decorators), Ltd., Glasgow.

London: Thermal insulation—C.A.S. (Contractors), Ltd., London, W.8.

Somerset (Yeovil): redeoration—T. H.

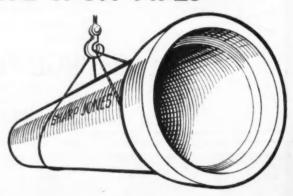
Somerset (Yeovil): redecoration—T. H. Kenyon and Sons, Ltd., London, W.9. Warwickshire (Long Marston): building—Coleman and Tyas, Ltd., Bidford-on-Avon.

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International Construction

HOUSING PROJECTS IN WESTERN NIGERIA Coping with Big City Population Bulge

WITH their rapidly increasing industrial expansion and consequent rise in living standards the cities of Lagos and Ibadan in Western Nigeria are faced with the major problem of over-population.

over-population.

As with most capitals of the world, an effort is being made to solve the problem by the development of large suburban estates some miles outside the cities' limits. One of these estates is at Ikeja, 13 miles from Lagos, where a 550-acre housing project is being developed by the Western Region Housing Corporation of Nigeria.

The Corporation was created by the Western Nigerian Government and accord-

The Corporation was created by the Western Nigerian Government and according to its enabling law its primary task is to "increase the availability of housing for acquisition by the Region's citizens." This tall order has seen fruition in the Ikeja project and also in the Bodija development which lies just outside

Ibadan proper contains a population of approximately 750,000 to 1,000,000 persons depending upon the time of year and the number of agricultural workers who have decided to make it their temporary residence. From Mapo Hall, the seat of the city council, Ibadan spreads out in what seems to be an endless undulating sea of tin roofs interspersed with gleaming white skyscrapers and Government buildings.

The Western Region capital's streets are jammed with cars, lorries, bicycles and pedestrians. The houses that line its main arteries and streets are equally crowded with families who have doubled up because of the severe shortage of living space.

Experimental Estates

As a measure of alleviation, the Western As a measure of alleviation, the Western Region Housing Corporation in 1958 launched the Bodija development, a 400-acre suburb that eventually will contain 1,200 homes plus a shopping centre, churches, parks, schools and a cinema. The Bodija project, like its sister development at Ikeja, near Lagos, is an experiment. Its success will determine the Western Region's Government housing

plans for some time to come. That the Western Region intends to continue developing its own brand of suburbia is evidenced by the fact that negotiations are now under way to begin similar projects in the cities of Sapele and Benin.

The houses are built of native stone and

The houses available in both Ikeja and Bodija are of three price and size varieties. The smallest, which sells for £1,000, contains a living room, kitchen, two bedrooms, bath, veranda and a bicycle storeroom. It has a floor area of 700 sq. ft.

The next model costs £1,580 and con-



The largest house available on the Bodija estate-price £3,500

concrete, painted in soft blues, pinks and yellows. They range in price from £1,000-£3,500. The structures, similar to those already built in the suburbs of Accra, were

already built in the suburbs of Accra, were designed specifically for West Africa by a team of United Nations architects.

The Housing Corporation is not only in the business of building homes but it also loans money to prospective buyers. The terms are 20 per cent, down with 15 years to pay. Interest rates are usually around 7 per cent, a year. 7 per cent, a year,

tains 1,100 sq. ft. It has a living room, kitchen, store room, three bedrooms, bath, garage and servants' quarters.

The largest house available is two storeys, contains 2,000 sq. ft. and sells for £3,500. It has a living room, dining room, kitchen, study, three bedrooms, 1½ baths, a garage and servants' quarters. The prices for all the houses include land, sewage, water and road development. sewage, water and road development.

Industrial Development

Industrial Development

The Ikeja project near Lagos differs from Ibadan's Bodija development in that it combines an industrial estate with a suburb. Of Ikeja's total of 750 acres, 200 acres have been set aside for industrial development, 140 of which have already been allocated to various firms.

People employed by the new factories on the Ikeja industrial development site, which is a strategic spot as far as sea, air and ground transportation and shipping are concerned, are expected to provide a ready market for the homes built in the new suburb. The houses will be of the same design as those in Ibadan and will sell for the same price on the same terms.

The industrial development facet of Ikeja is part of the effort by the admini-

The industrial development facet of lkeja is part of the effort by the administration to attract new industry within the Region's boundaries. Two factories already under construction are Tower Aluminium, Ltd., a subsidiary of Aluminium, Ltd., of Canada, and Nigeria Asbestos Cement Products. Other firms recently signed up for tracts in the area presently signed up for tracts in the area include a book publishing firm, a textile manufacturing plant and a shoe factory.

manufacturing plant and a shoe factory.

The Western Region offers prospective industries every inducement to locate plants in Ikeja. Perhaps the most attractive facet of Ikeja is that title to the land has already been cleared. Missing records and disputed claims often delay title clearing in West Africa for seemingly interminable periods.



This newly completed Bodija dwelling sells for £1,000

International Construction

LATEST BRITISH GAS WORKS FOR AUSTRALIA

A USTRALIA'S most up-to-date gas works are to be built at Geelong, near Melbourne, by Humphreys and Glasgow, Ltd., the London firm of fuel and chemical engineers.

The works, due to go into operation next year, will consist of two Onia-Gegi Catalytic Reforming units, each producing

Catalytic Reforming units, each producing 1,500,000 cu, ft. of town gas a day.

The units will use tail gases piped from a Shell oil refinery five miles away. As an alternative feedstock, liquefied pertoleum gas, for which storage facilities are being installed, will ensure continuous output when the refinery is shut down for maintenance. maintenance.

The Geelong Gas Company's new works will be the first in Australia to use the Onia-Gegi process in which refinery gases of high calorific value, but varying quality. are combined with steam in the presence of a nickel catalyst to yield high hydrogen gas. This is enriched with additional refinery

gas to a calorific value of 500 B.Th.U. per cu, ft., and in its final composition is interchangeable with normal coal gas. An additional feature of the works is a waste heat steam recovery plant.

FINLAND ORDERS MORE A.E.C. **ENGINES**

The Diesel Engine Division of A.E.C., Ltd., announce that, following the visit of a party of Finnish Government officials and a larger party of transport operators to this country, they have received from Mr. Eero Kytola, managing director of Vanajan Autotehdas Oy., a further order for 500 diesel engines of varied types, fitted with Simms fuel injection and electrical equip-

This order brings the total value of A.E.C. engines sold to Finland in recent years to well over £1m.

£666M. GERMAN ROAD **PROGRAMME**

The West German Government have an The West German Government have approved a four-year road construction programme, estimated to cost £666m. This cost will be met by an increase of the tax on petrol by two pfennigs a litre (about 2d, a gallon) and of the tax on diesel oil by four pfennigs a litre. The road tax on lorries will also be increased.

ASPHALT PLANT SHIPPED TO ARGENTINA

One of the largest asphalt and bituminous plants to be exported by Frederick Parker, Ltd., of Leicester, has been shipped to Buenos Aires, Argentina.

The plant has been purchased by Marengo S.A., I.C.I.F., Callao 346, Buenos Aires, one of Argentina's leading contractors, and is worth in the region of £25,000.

FRANCO-GERMAN INTEREST IN SUDAN PROJECT

From its office in Khartoum, Sudan, Barclays Bank D.C.O. report that France and West Germany are showing interest in a plan for re-settling at Khashm El Girba (between Kassala and Gedaref) the inhabitants of Wadi Halfa who will be displaced as a result of flooding from the Aswam High Den Aswam High Dam.

The cost of the project, which will involve construction of a dam and reservoir, is said to be about £S20m.

NEW SOUTH WALES TO HAVE EXPRESSWAY

THE New South Wales Government will seek tenders throughout the world for the construction of a privately controlled express roadway between the cities of Sydney and Newcastle. The successful contractor would have the right to charge motorists a toll to recoup the cost of con-

The expressway would run parallel with the present 100-mile section of the Pacific Highway, linking Sydney and Newcastle. Traffic authorities say that part of this section contains more bends and has a higher accident rate than any other major highway in Australia.

Surveys and ideas for the expressway will be displayed in Australian cities and in the London and New York offices of the New South Wales Government.

£2½M. SPANISH CONTRACT FOR ENGLISH ELECTRIC

An order worth nearly £2½m. for hydro-electric generating plant for two new Spanish power stations has been won by English Electric Co., Ltd.

The machinery has been ordered by Hidroelectrica Espanola and will be installed at Valdecanas and at nearby Torrejon, both some 120 miles south-west of Madrid. The power stations are the first to be built on the Spanish section of the River Tagus. Total output will be 400,000-kW which will be fed into the Spanish power network.

NEW £1.4M. DAM FOR BULAWAYO

From Bulawayo, Rhodesia, it is reported that the City Council has agreed on the siting of a dam on the Inyankuni River, about seven miles from the Ncema Dam and 10 miles from Balla Balla.

The Inpankuni scheme will store 21,000 million gallons and cost £1.4m. for the dam and aqueduct. But extensions to filtration and pumping plant and delivery capacity at Neema will cost another £1.8m.

ORANGE RIVER DAM PROPOSAL

A proposal to build an Orange River barrage, resembling the Kariba and Owens schemes, has been made by Dr. H. Olivier, of Sir Alexander Gibb and Partners, London, a report of whose survey has been sent to the South African Cabinet.

The dam would be 80 miles from the river's mouth and would cost £47m. It would provide electricity for Cape Town at under half the present cost of \$\frac{1}{2}d\$, per

ST. BERNARD ROAD TUNNEL

A contract for completion of the road tunnel under the Great St. Bernard Pass has been awarded to The Sogene Construction Company. A Swiss team at present at work on the northern end of the tunnel is expected to meet the Italian team early next year. The 6,400yd, tunnel is estimated to cost £3,714,000.

LISBON BRIDGE TENDERS. SUBMITTED

Dorman Long, Ltd., are among three European and one American and Portuguese groups, who have submitted tenders for construction of a bridge across the River Tagus in Portugal.

The bridge will be similar in design to the Forth Bridge now being built. It will have a central span of about 1,100yd.

RAILWAY SURVEY IN SIERRA LEONE

A LENGTH of 52 miles of railway line in the northern province of Sierra Leone being photographed and mapped by airey Air Surveys, Ltd., White Waltham, Berkshire.

The £12,000 contract, which was placed by the Sierra Leone Development Co., Ltd., covers the mapping of the railway line to a scale of 1/1200 and the provision of cross section drawings through the line and the adjacent terrain at frequent intervals along the whole of its length.

the adjacent terrain at frequent intervals along the whole of its length.

Nearer the coast, at Pepel Island, large scale surveys are to be made for development purposes. They will necessitate the clearing of sight-lines straight through mangrove swamp under conditions of great difficulty for the ground control survey. difficulty for the ground control survey team. Ground control surveyors will be using a tellurometer.

BRITISH EQUIPMENT FOR U.S. WATERWORKS INSTALLATION

Glenfield and Kennedy, Ltd., have received an order worth \$500,000, through their associated company, Glenfield and Kennedy, Inc., for a major installation of 10ft. diameter by 10ft. wide microstraining units for the initial stage of a proposed 100,000,000 gallons per day plant for the Board of Waterworks Commissioners, Denver, Colorado, U.S.A.

NEW UNIVERSITY PLANNED AT AUCKLAND

Plans for a new Auckland university—in Princes Street—to accommodate 10,000 students by 1972 have been unanimously adopted by the university council. The scheme is similar to that submitted last year by Professor R. H. Matthew, dean of the faculty of architecture at Edinburgh University, who acted as consultant to the university. university.

The buildings—which will include an eight-storeyed science block—will occupy only 25 per cent. of the available land.

£14M. HOTEL FOR BERMUDA

Work is starting in Bermuda, on the construction of a new £1\fm. 200-room, luxury hotel, designed by American hotel architect, William Tabler. A Boston firm, the Aberthaw Construction Co., have been awarded the main contract, working in co-operation with Milani and Sons, Ltd., a local Bermudian company.

COCKBURNS' ATHENS CONTRACT

An order valued at £50,000, for valves has been secured by Cockburns, Ltd., Cardonald, Glasgow. This order, which has been in negotiation over a period of months, was won against competition from a number of Continental and U.S. firms.

LE CORBUSIER INVITED TO **AGADIR**

The French architect, Le Corbusier, was last week invited by the Moroccan Government to study the problems of rebuilding Agadir, which was destroyed by the earthquake on March 1.

STEEL FRAMES FOR KUWAIT

A contract worth £325,000 has been placed with The Lilleshall Co., Ltd., St. George's, near Wellington, Salop., by the Government of Kuwait for the supply of steel-framed buildings.

Trade Section

ABELSON ANNOUNCE NEW 5 CU. YD. DUMPER

FRONT and rear axle, 4 x 4, or rear axle only, 4 x 2, drives are incorporated in a new 5 cu. yd. scowended diesel dumper which has been put into production by Abelson and Co. (Engineers)

neers), Ltd., Coventry Road,

has been and Co. (Engineers), Ltd., Coventry Road, Birmingham, 26.

In addition to the 6.6:1 front axle drive ratio, other new features of the 4 x 4 include 9.00 x 20 12-ply Road Track Major tyres, 60-degree angle of tip, achieved by 15-ton capacity heavy duty twin rams, and a body capacity of 4½ cu. yd. struck and 5 cu. yd. heaped. The payload is 8 tons, when operating in 4 x 2 drive.

The reinforced chassis has a heavy duty front bumper fitted with a tow jaw, and the body floor sandwich has been increased to 2in. thickness. Double tipping hinge brackets are fitted, secured by five ¾in. diameter H.T. bolts. The single tipping hinge bar is solid and of 1¾in. diameter. Helper spring limit stops are e-positioned on to the flitch plates and 1in. thick rubber shock pads are fitted to the top of the reinforcing channels. Body guide brackets are welded to the flitch plates. Fuel tanks are on top of the channel immediately behind the cab and the vehicle

batteries are behind the passenger's seat. Cost of the machine is £2,000 and delivery is said to be from six to eight weeks,



Three-quarter rear view of dumper with body tipped

ROCK RIPPER WILL OPERATE TO 12 IN. DEPTH

A HYDRAULICALLY operated rear mounted ripper, designed to rip pavements to a 12in. depth, has been produced by the American Tractor Equipment Corporation, Oakland, California, for use on the Le Tourneau-Westinghouse 660 and 550 motor graders. The equipment can take up to seven ripping shanks and is mounted to the motor grader's rear frame. The design and contour of the shanks lifts and breaks the material for easy handling. Attachments include straight or curved shanks, with either steel or sphereukite replaceable points, splitter and shank guards and a sconing disk for cutting asphalt pavements to limit the ripping area as required.

The rippers have a "hinge away" action which keeps points retracted and out of the way when not in use.

NEW SYSTEM OF CONVEYOR BELTING

BELTING

The best features of V-belt and flat belt drives are said to be combined in the Poly-V system, a new flat belt with a series of parallel V-shaped ribs moulded on its inner surface. The belt is being introduced into the U.K. by Turner Bros. Asbestos, Ltd., Spotland, Rochdale, Lancs. The V-ribs form the driving surface of the belt and completely fill mating grooves on the pulleys, there being no clearance between the two. Thus the inner face of the belt has about twice the surface area in contact with the pulleys when compared with a multiple belt drive of similar widths. This means that the Poly-V can transmit the same load in less space or a greater load in the same space as a multiple belt drive, say the manufacturers. For light drive where single V-belts are normally used there is a smaller Poly-V section available.

section available

NEW PORTASILO HAS "AUTOFEED"

Steel Base Structure Incorporated

NEW range of bulk cement silos A for installation on site has been announced by Portasilo, Ltd., Blue Bridge Lane, York. These now incorporate a steel base structure to eliminate damage to the most vulnerable part of the container and to give easier access to the weighing mechanism.

Laminated wood, phenolic resin bonded, is used for the body of the Portasilo as in previous models. The Pullwey weighing mechanism has been further refined and a mix counter to register the number of times the Pullwey is operated, together with a canvas sock to the hopper, are now standard equipment on the larger models.

With the addition of the

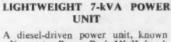
With the addition of the Autofeed, which can be transferred between silos, fully automatic press button control of the Pullwey is provided, an asset when continuous concreting operations are re-

quired.

The PII Portasilo of II tons capacity is offered with either the dispenser or Pullwey weighing mechanism. The dispenser does not discharge the cement directly into the concrete mixer loading hopper as does the Pullwey; the cement is weighed out automatically into a static steel hopper from which it can be discharged into a barrow or other receptacle.

The 30-ton capacity model

The 30-ton capacity model is now priced at £695 ex works, the P11 model at £365 with dispenser, or £455 with the Pullwey.



A diesel-driven power unit, known as the Youngster Power Pack Mk.II, has been developed by Ashton-Young Engineering Development Co., Ltd., 76 Cambridge Road, Kingston-upon-Thames, Surrey, for use on construction sites.

Weighing 960lb., it is a 7.5-kVA machine developing 10 b,h.p. at 3,000 r.p.m. It has



Youngster Power Pack, Mark II

250-V A.C. facilities for light and power take-offs, as well as a welding current range from 25 to 175 amps. A.C. 50 cycles. A special attachment allows cutting of 3in. armoured plate or the piercing of 6in.

armoured plate or the piercing of 6in. plating.

The unit is mounted on pneumatic wheels, which when on site are retracted allowing the unit to rest solidly on four special anti-vibration mountings. It is also supplied mounted on a 10cwt. towing trailer.



P11 Portasilo

Trade Section

PEGSON INTRODUCE NEW RANGE OF CENTRIFUGAL PUMPS

 $E^{
m ARLY}$ in 1958, Pegson, Ltd., Coalville, Leics., decided to design an additional range of centrifugal pumps which would incorporate features not to be found, in the complete sense, in any comparable range. Now, after two years' design and development work. the new pump, known as the Sultan, is being introduced to a wide range of industries.

The Sultan is a vertically split, end suction, single stage, centrifugal pump. It is being produced in sizes from 1½in. to 12in. suction branch diameter, the entire range comprising 42 pumps with capacities from 20 to 3,500 gallons per minute.

Reduction in Parts

Basically, there are six sets of constant hydraulic shapes around which all the pumps are designed. Each set of shapes produces a uniform performance pattern so that a 12in, pump, for example, is a pure geometric enlargement of any other model in the same hydraulic group. By keeping the suction eye constant for all pumps of the same suction branch diameter it has been possible to reduce the number of parts and increase interchangeability, e.g., although there are six 4in, numps in the parts and increase interchangeability, e.g., although there are six 4in. pumps in the range, one size of wear ring is common to them all. Futhermore the horse-power range—from \$\frac{1}{2}\$ to \$75\to is\$ covered by five bearing housing groups and, within each group, all shafts, seals, bearings, caps, keys and H.D. bolt locations are common.

Design Features

A stable head/quantity characteristic is a has been ready quantity characteristic is a feature of the pumps which enables them to be used satisfactorily in parallel or on booster applications. Other design points

A contemporary styled bearing housing in which the mounting flange is rigidly supported at both the top and the bottom. The top support is a tee-beam of considerable strength

whilst the bottom support, equally robust, forms a drain bowl to collect gland leakage if a stuffing box is used. The low sides of the drain used. The low sides of the drain bowl, permissible because of the strength of the tee-beam, give easy access for spanners when tightening the stuffing box; this is particularly beneficial when a pump discharge branch is mounted horizontally.

(2) The shaft is accurately machined and of generous proportions for all load-ing conditions. It is designed so that the span between the two bearings is always greater than the length of the cantilever from the impeller centre line to the first bearing; this gives a line to the first bearing; this gives a low bending moment and reduces shaft deflection to a minimum. Deep groove ball bearings are used throughout for smooth operation and long life. Bearing life is further increased by the balance chamber behind the impeller which minimises any hydraulic axial thrust.

A choice of four interchangeable seals A choice of four interchangeable seals is available—three mechanical self-lubricating shaft seals and a conventional stuffing box with gland packing. These seals are suitable for a wide variety of liquids and all can be arranged for internal or external liquid circulation. Pump design allows seal changeovers to be made without seal changeovers to be made without any alteration to existing pump components.

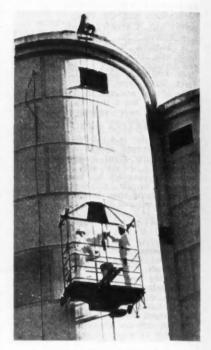
(4) All pumps are available with engines or electric motors or as pump ends to drive from independent power sources; direct coupling, flexible coupling or belt drive can be arranged. Standard pump construction can in the following materials: (a) all iron; (b) all bronze; (c) iron with bronze trim; and (d) stainless steel. Other materials will be considered for special applications.

The variety of seals and materials which are available allow the pumps to be used in a wide diversity of industries.

POWERED MAINTENANCE CRADLE

A SUSPENDED powered platform for maintenance work on high buildings, which is now on the market, has an automatic dual rope safety device which secures the platform in the event of cable failure. Called the Wall Spider, it is made by Access Equipment, Ltd., Maylands Avenue, Hemel Hempstead,

A 2-h.p. electric motor with a movable



The Wall Spider powered platform

armature gives automatic braking, and there are limit switches top and bottom. With a safe working load of 500lb, the platform measures 6ft. by 2ft. 3in. Hoisting and descending speeds, with two men, are both 40ft. a minute.

The cage is of tubular steel construction with a removable timber deck. Telescopic wheel mountings top and bottom allow it to travel vertically or horizontally, and wheels also permit it to be barrowed along. The hoisting cable is 58P pre-formed drawn galvanised plough steel wire aircraft cord of 7/37 construction, with a nominal breaking strength of six tons and a safety factor of 12-1, while the safety cable is 62P wire, nominal breaking strength nine tons and safety factor 18-1. A 10in. drum is provided, with a capacity for 150ft. of cable.

A 10in. drum is provided, with a capacity for 150ft, of cable.

The electric motor unit is a combination of electric motor and brake and works on the sliding rotor principle. When cut off from the supply, braking is effected mechanically; the brake spring pushes the axially sliding rotor together with its shaft, brake disc and brake ring against the counterpart braking face. The effect is a soft braking action without shock.

FORD EXPAND ENGINE SALES **OPERATIONS**

Ford Motor Co., Ltd., Dagenham, annouce that as a further step in the development of their industrial engine business, a new sales operations group has been formed and the sales, supply, production and advertising functions reorganised.

The new operation is headed by Mr. G. T. Jones, manager, industrial engine sales operations, with Mr. G. J. Carroll, manager, overseas sales, and Mr. W. R. H. Temple, manager U.K. sales.

TRACK-MOUNTED HALCO-STENUICK DRILL

A DRILLING machine called the Halcotrack, which is mounted on crawler tracks, has been introduced by The Halifax Tool Co., Ltd., West Lane, Southowram, Halifax, Yorks.



The Halcotrack drilling unit

The tracks are driven by independent and powerful air motors. A 175 c.f.m. compressor will provide an adequate air supply for both drilling and moving but the unit has ample power to tow portable compressors up to 600 c.f.m. size.

Sprockets are provided, on the air motors, to enable two alternative travelling speeds of 1-1½ m.p.h. and 2-3 m.p.h. At the lower ratio a gradient of 1 in 2½ can be climbed. The tracks can rise and fall independently of the chassis and of one another allowing the machine to travel over rough terrain without difficulty.

The drilling part of the machine is basically the Halco-Stenuick Mark III Universal machine for putting down 4in. machine for putting down 4in.
or 3½in, diameter holes at any angle, from vertical to horizontal, to 150ft, by either dry or wet drilling methods. A rack is provided for the interconnecting tubes.

The machine can be moved

The machine can be moved and operated by one man, when a compressor is attached, or if it is connected by a flexible pipe to a static air supply.

Trade Section

SIX-WHEELER BEDFORDS CAN CARRY 10 TONS

APPROVAL has been given by A Vauxhall Motors, Ltd., to the conversion of two of their Bedford vehicles to three-axle machines, making them capable of carrying payloads of more than 10 tons. Previously the only models in the Bedford range capable of hauling such loads have been the articulated tractor units.

the rear springs, ensure proper sharing of the load between third and driven axles and, at the same time, look after the balancing of brake torque. In the Primrose, the load is carried by

two main coil springs, and the axie is located by quarter-elliptic leaf springs, which also absorb brake torque. A hydraulic distributor unit automatically compensates load distribution between the two rear Under load, the third axle floats



A Bedford fitted with one of the new third-axle conversions

The two conversions approved are the York and the Primrose. They can be applied to all models—short and long, forward control and normal control—in the Bedford 7-ton range. To all models they bring increases of over three tons in gross vehicle weight, as well as additional body length by chassis extension.

Both conversions, as they are applied, have been developed in close co-operation with Bedford engineers. In the York conversion, two separate stub axles give the extra axle the effect of independent suspension. Distributor beams, shackled to

against the hydraulic fluid pressure, with the coil springs taking shock reaction.

A secondary servo and hydraulic system incorporated in both conversions to en-

is incorporated in both conversions to ensure balanced braking.

Neither conversion is carried out at the factory, but, through Bedford dealers, by the conversion specialists, York Trailer Co., Ltd., Corby, Nonthants, and Primrose Third Axle Co., Ltd., Whalley, Lancs.

U.K. prices of the actual conversions (including the chassis extensions) vary from £555 to £578 for the York, and from £537 to £562 for the Primrose.

SAND AND GRAVEL HANDBOOK

HANDBOOK, loose-leafed to take

A HANDBOOK, loose-leafed to take future amendments and bound in cloth, has been produced by the Sand and Gravel Association of Great Britain as a guide and reference work for producers and users. The Association's first publication of its type, the book provides a fund of practical knowledge and presents its information in a readily accessible form. Perhaps the most useful pages are a map pin-pointing the locations of all the Association members' plants in Great Britain and the references to the British Standard Specifications relating to sand and gravel.

Other chapters deal with: aggregate gradings; concrete; dry lean concrete and cement bound granular base material; building sands for plasters, renderings and mortars; roadstone and surface dressing; coated gravel; filter media; routine testins at the quarry; and screening plant. A complete list is also given of the Association's producer members.

Copies of the handbook are available, price 20s., from the Association's offices, 48 Park Street, London, W.1.

AMERICAN LAMINATING MACHINE AVAILABLE IN U.K.

A new laminating machine, said to re-

A new laminating machine, said to reduce the retail price of hard surfaced, decorative wall, ceiling and roof boards by to dof to for the told of the

Hills Plant, Ltd., have now moved their head office from Central Way, Feltham, to 12 Burleigh Street. Strand, London, W.C.2. Tel: Temple Bar 0321.

ANTI-CORROSION PAINT

An anti-corrosion paint developed in the United States by the Vita-Var Corporation, Newark, New Jersey, is now available in the U.K. through Anthony Edwards and Associates, 57 Talgarth Road, London, W.14. Known as Vita-Var stainless steel paint No. 13448, it contains a mixture of stainless steel flake (18 per cent. Cr, 8 per cent. Ni) and several non-metallic pigments in a long oil alkyd resin vehicle.

The paint is designed for use as a finishing coat and when first applied it is medium grey in colour with a semi-gloss finish.

After about two years it becomes lighter lighter After about two years it becomes lighter and brighter in appearance, resembling uncoated stainless steel. It may be applied to iron or steel by brush, spray or roller direct over old paint, provided it is in good condition. Bare metal is first coated with a primer. One gallon of top coat and primer is said to cover an area of 450 sq. ft. to 500 sq. ft.

CONTINUOUS DUCT COVER

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T

Broad and Co., Ltd., 4 South Wharf. London, W.2, are marketing a slender steel section continuous duct cover and frame, named Stelduct. Zinc protected against corrosion, the frame is recessed to take a lin. tile or filling to match the surrounding floor finish.



This W.9 Terraload'r was one of the full range of Case industrial machines demonstrated recently at Stutton, Yorks., by J. I. Case Co., Ltd., West Drayton, Middx. In a quarry owned by Pavior Construction, Ltd., two crawler shovels and two four-wheeled Terraload'rs, the W.9 and W.12, were shown digging and loading gravel to be used as fill on the nearby Micklefield By-pass. A Case 1000 tilt dozer was seen at work on the by-pass levelling the fill

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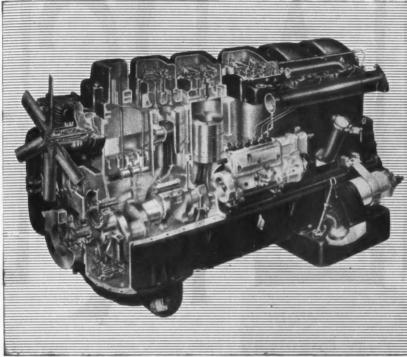
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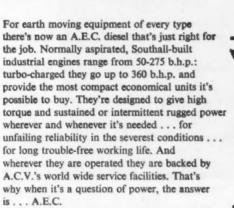
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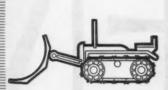
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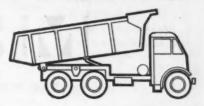


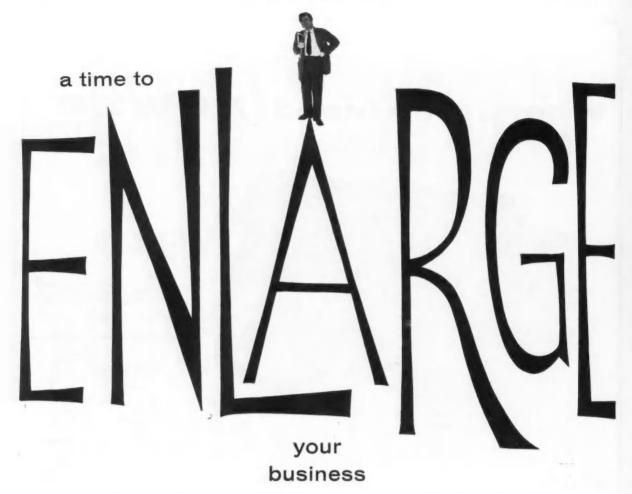


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FEATURES

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(Continued from page 1620)

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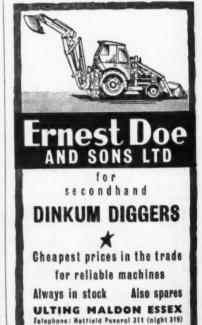
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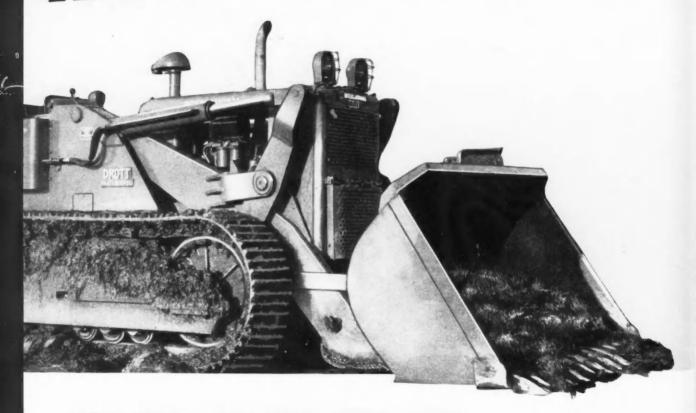
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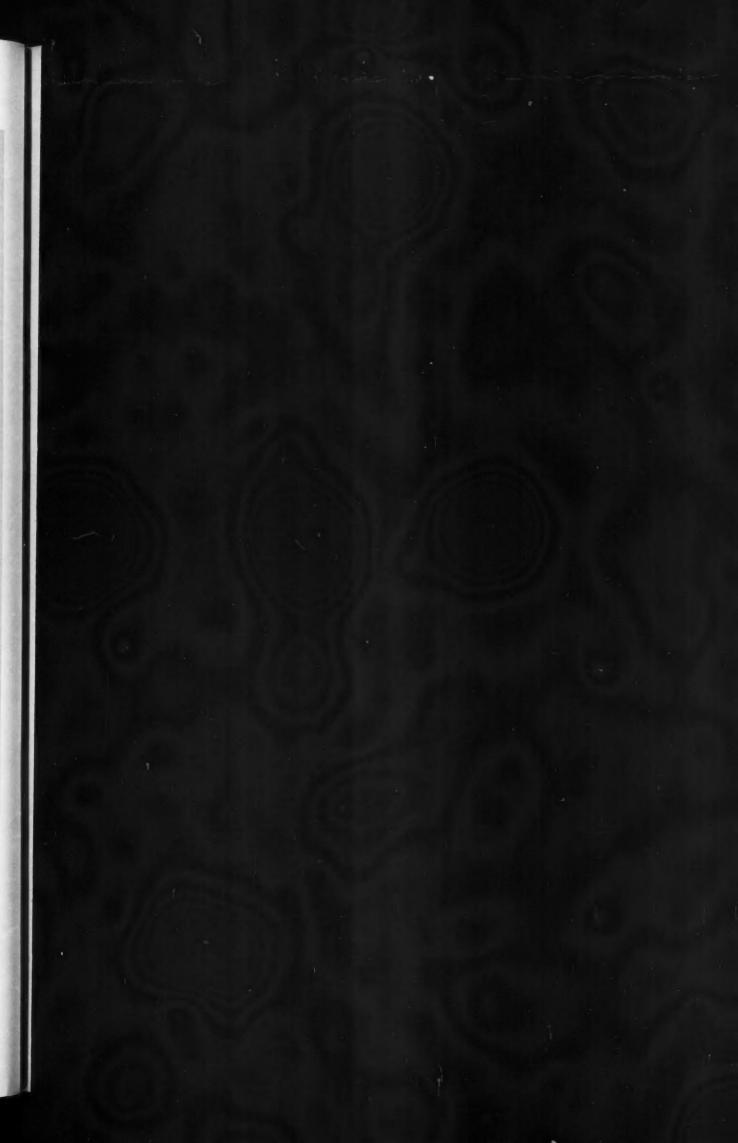
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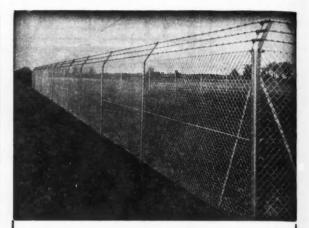


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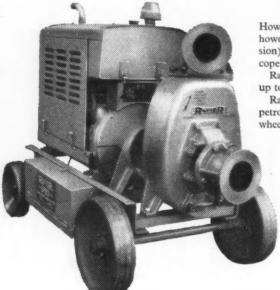
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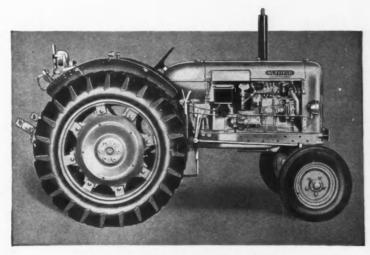
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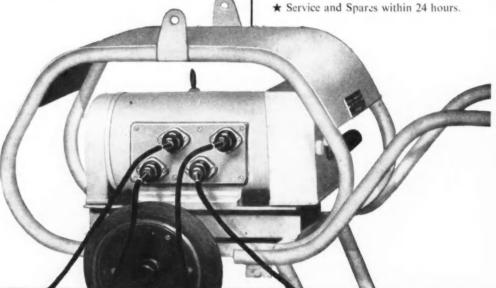
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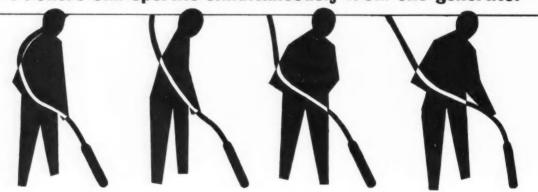
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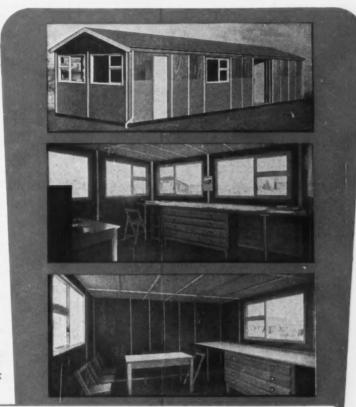
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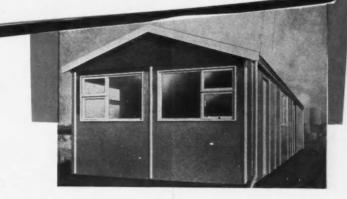
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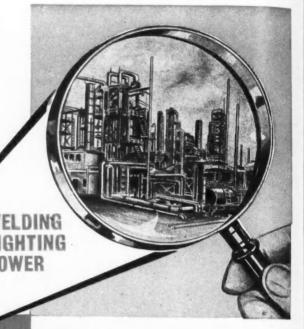


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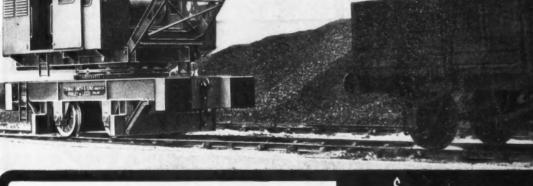
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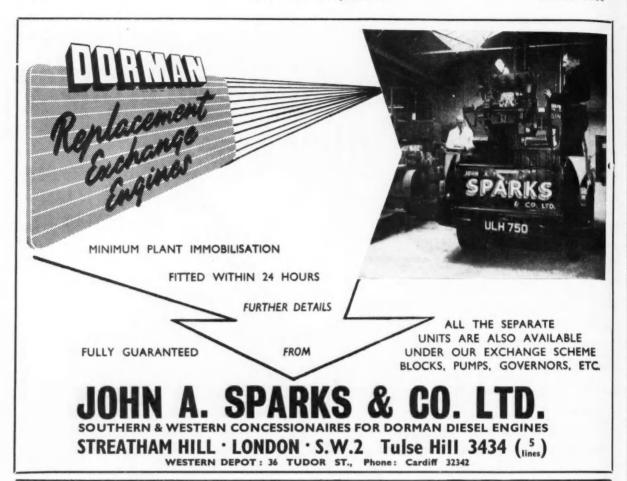


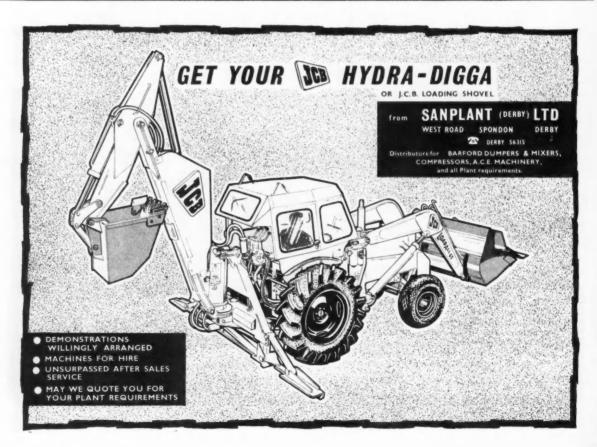
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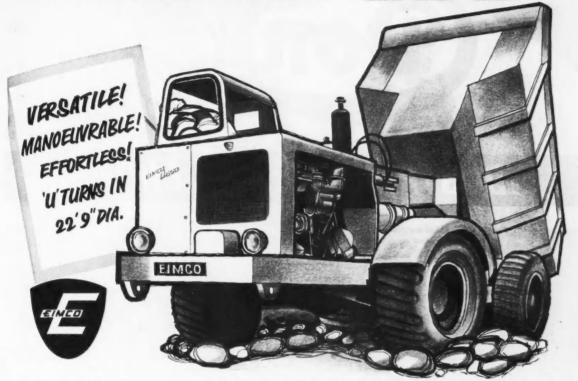
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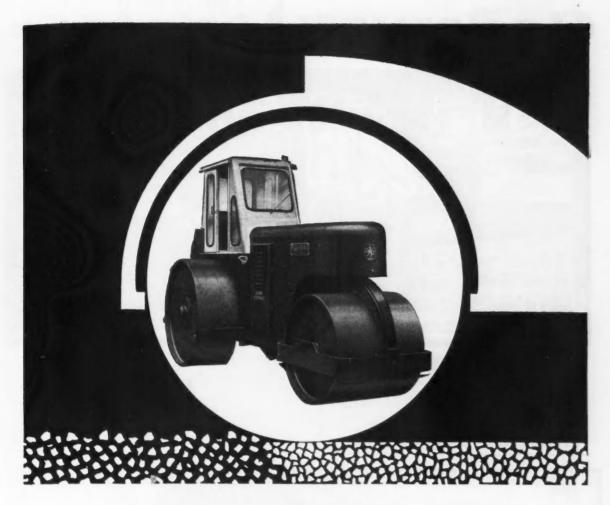
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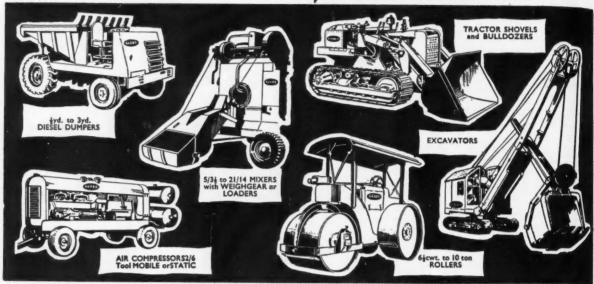
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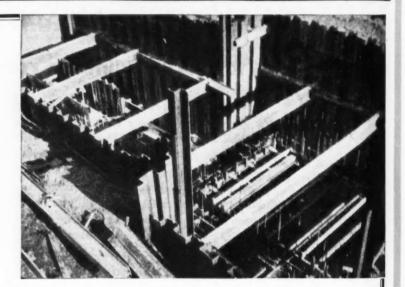
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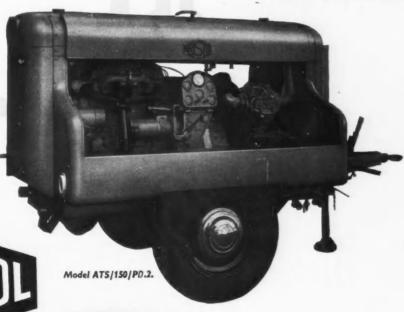
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